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=> FILE HOME
FILE 'HOME' ENTERED AT 11:48:20 ON 19 SEP 2008


=> DISPLAY HISTORY FULL L1-

     FILE 'HCA, WPIX, JAPIO' ENTERED AT 11:22:39 ON 19 SEP 2008
L1         21870 SEA (SOLID? OR STAT# OR STATIONAR?)(3A)(PHAS? OR
                 SUPPORT?)(3A)(SYN# OR SYNTH?)
L2          4449 SEA (SOLID? OR STAT# OR STATIONAR?)(3A)(PHAS? OR
                 SUPPORT?)(3A)(SYN# OR SYNTH?)
L3           379 SEA (SOLID? OR STAT# OR STATIONAR?)(3A)(PHAS? OR
                 SUPPORT?)(3A)(SYN# OR SYNTH?)
     TOTAL FOR ALL FILES
L4         26698 SEA (SOLID? OR STAT# OR STATIONAR?)(3A)(PHAS? OR
                 SUPPORT?)(3A)(SYN# OR SYNTH?)
L5        562063 SEA FILTER? OR MICROFILT? OR NANOFILT?
L6        661138 SEA FILTER? OR MICROFILT? OR NANOFILT?
L7        237014 SEA FILTER? OR MICROFILT? OR NANOFILT?
     TOTAL FOR ALL FILES
L8       1460215 SEA FILTER? OR MICROFILT? OR NANOFILT?
L9       1913816 SEA GAS## OR GASIF? OR GASEOUS?
L10      1125417 SEA GAS## OR GASIF? OR GASEOUS?
L11       499389 SEA GAS## OR GASIF? OR GASEOUS?
     TOTAL FOR ALL FILES
L12      3538622 SEA GAS## OR GASIF? OR GASEOUS?
L13        18309 SEA (SEP# OR SEPN# OR SEPARAT? OR DISPARAT? OR DISTINCT?
                 OR DISJOINT? OR PARTITION?)(2A)(CHAMBER? OR CONTAINER?
                 OR VESSEL? OR TANK# OR VAT# OR FLASK?)
L14        67872 SEA (SEP# OR SEPN# OR SEPARAT? OR DISPARAT? OR DISTINCT?
                 OR DISJOINT? OR PARTITION?)(2A)(CHAMBER? OR CONTAINER?
                 OR VESSEL? OR TANK# OR VAT# OR FLASK?)
L15        22095 SEA (SEP# OR SEPN# OR SEPARAT? OR DISPARAT? OR DISTINCT?
                 OR DISJOINT? OR PARTITION?)(2A)(CHAMBER? OR CONTAINER?
                 OR VESSEL? OR TANK# OR VAT# OR FLASK?)
     TOTAL FOR ALL FILES
L16       108276 SEA (SEP# OR SEPN# OR SEPARAT? OR DISPARAT? OR DISTINCT?
                 OR DISJOINT? OR PARTITION?)(2A)(CHAMBER? OR CONTAINER?
                 OR VESSEL? OR TANK# OR VAT# OR FLASK?)
L17         8384 SEA (SEP# OR SEPN# OR SEPARAT? OR DISPARAT? OR DISTINCT?
                 OR DISJOINT? OR PARTITION?)(2A)CHAMBER?
L18        37326 SEA (SEP# OR SEPN# OR SEPARAT? OR DISPARAT? OR DISTINCT?
                 OR DISJOINT? OR PARTITION?)(2A)CHAMBER?
L19        11304 SEA (SEP# OR SEPN# OR SEPARAT? OR DISPARAT? OR DISTINCT?
                 OR DISJOINT? OR PARTITION?)(2A)CHAMBER?
     TOTAL FOR ALL FILES
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L20       57014 SEA (SEP# OR SEPN# OR SEPARAT? OR DISPARAT? OR DISTINCT?
                OR DISJOINT? OR PARTITION?)(2A) CHAMBER?
L21        9437 SEA (UPPER? OR TOP OR TOPMOST?)(2A)(CHAMBER? OR CONTAINER
                ? OR VESSEL? OR TANK# OR VAT# OR FLASK?)
L22       64151 SEA (UPPER? OR TOP OR TOPMOST?)(2A)(CHAMBER? OR CONTAINER
                ? OR VESSEL? OR TANK# OR VAT# OR FLASK?)
L23       14546 SEA (UPPER? OR TOP OR TOPMOST?)(2A)(CHAMBER? OR CONTAINER
                ? OR VESSEL? OR TANK# OR VAT# OR FLASK?)
     TOTAL FOR ALL FILES
L24       88134 SEA (UPPER? OR TOP OR TOPMOST?)(2A)(CHAMBER? OR CONTAINER
                ? OR VESSEL? OR TANK# OR VAT# OR FLASK?)
L25        5122 SEA (UPPER? OR TOP OR TOPMOST?)(2A)CHAMBER?
L26       26527 SEA (UPPER? OR TOP OR TOPMOST?)(2A)CHAMBER?
L27        6361 SEA (UPPER? OR TOP OR TOPMOST?)(2A)CHAMBER?
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L28       38010 SEA (UPPER? OR TOP OR TOPMOST?)(2A) CHAMBER?
L29       17028 SEA (LOWER? OR BOTTOM?)(2A)(CHAMBER? OR CONTAINER? OR
                VESSEL? OR TANK# OR VAT# OR FLASK?)
L30       82563 SEA (LOWER? OR BOTTOM?)(2A)(CHAMBER? OR CONTAINER? OR
                VESSEL? OR TANK# OR VAT# OR FLASK?)
L31       25577 SEA (LOWER? OR BOTTOM?)(2A)(CHAMBER? OR CONTAINER? OR
                VESSEL? OR TANK# OR VAT# OR FLASK?)
     TOTAL FOR ALL FILES
L32      125168 SEA (LOWER? OR BOTTOM?)(2A)(CHAMBER? OR CONTAINER? OR
                VESSEL? OR TANK# OR VAT# OR FLASK?)
L33        5001 SEA (LOWER? OR BOTTOM?)(2A)CHAMBER?
L34       30148 SEA (LOWER? OR BOTTOM?)(2A)CHAMBER?
L35        8642 SEA (LOWER? OR BOTTOM?)(2A)CHAMBER?
     TOTAL FOR ALL FILES
L36       43791 SEA (LOWER? OR BOTTOM?)(2A) CHAMBER?
L37        5449 SEA OVER?(2A)(CHAMBER? OR CONTAINER? OR VESSEL? OR TANK#
                OR VAT# OR FLASK?)
L38       22163 SEA OVER?(2A)(CHAMBER? OR CONTAINER? OR VESSEL? OR TANK#
                OR VAT# OR FLASK?)
L39        5047 SEA OVER?(2A)(CHAMBER? OR CONTAINER? OR VESSEL? OR TANK#
                OR VAT# OR FLASK?)
     TOTAL FOR ALL FILES
L40       32659 SEA OVER?(2A)(CHAMBER? OR CONTAINER? OR VESSEL? OR TANK#
                OR VAT# OR FLASK?)
L41       12143 SEA UNDER?(2A)(CHAMBER? OR CONTAINER? OR VESSEL? OR
                TANK# OR VAT# OR FLASK?)
L42       26194 SEA UNDER?(2A)(CHAMBER? OR CONTAINER? OR VESSEL? OR
                TANK# OR VAT# OR FLASK?)
L43        9557 SEA UNDER?(2A)(CHAMBER? OR CONTAINER? OR VESSEL? OR
                TANK# OR VAT# OR FLASK?)
     TOTAL FOR ALL FILES
L44       47894 SEA UNDER?(2A)(CHAMBER? OR CONTAINER? OR VESSEL? OR
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                TANK# OR VAT# OR FLASK?)
L45           23 SEA L1 AND L5 AND L9
L46           47 SEA L2 AND L6 AND L10
L47            2 SEA L3 AND L7 AND L11
     TOTAL FOR ALL FILES
L48           72 SEA L4 AND L8 AND L12
L49            4 SEA L45 AND (L13 OR L17 OR L21 OR L25 OR L29 OR L33 OR
                L37 OR L41)
L50            9 SEA L46 AND (L14 OR L18 OR L22 OR L26 OR L30 OR L34 OR
                L38 OR L42)
L51            0 SEA L47 AND (L15 OR L19 OR L23 OR L27 OR L31 OR L35 OR
                L39 OR L43)
     TOTAL FOR ALL FILES
L52           13 SEA L48 AND (L16 OR L20 OR L24 OR L28 OR L32 OR L36 OR
                L40 OR L44)
L53       263532 SEA CHAMBER?
L54       702752 SEA CHAMBER?
L55       274953 SEA CHAMBER?
     TOTAL FOR ALL FILES
L56      1241237 SEA CHAMBER?
L57            3 SEA L45 AND L53
L58            5 SEA L46 AND L54
L59            0 SEA L47 AND L55
     TOTAL FOR ALL FILES
L60            8 SEA L48 AND L56
L61         4551 SEA MERRIFIELD#
L62          308 SEA MERRIFIELD#
L63           14 SEA MERRIFIELD#
     TOTAL FOR ALL FILES
L64         4873 SEA MERRIFIELD#
L65            5 SEA L61 AND L5 AND L9
L66            4 SEA L62 AND L6 AND L10
L67            0 SEA L63 AND L7 AND L11
     TOTAL FOR ALL FILES
L68            9 SEA L64 AND L8 AND L12
L69            0 SEA L65 AND (L13 OR L17 OR L21 OR L25 OR L29 OR L33 OR
                L37 OR L41 OR L53)
L70            1 SEA L66 AND (L14 OR L18 OR L22 OR L26 OR L30 OR L34 OR
                L38 OR L42 OR L54)
L71            0 SEA L67 AND (L15 OR L19 OR L23 OR L27 OR L31 OR L35 OR
                L39 OR L43 OR L55)
     TOTAL FOR ALL FILES
L72            1 SEA L68 AND (L16 OR L20 OR L24 OR L28 OR L32 OR L36 OR
                L40 OR L44 OR L56)

     FILE 'HCA' ENTERED AT 11:42:20 ON 19 SEP 2008
L73            6 SEA L49 OR L57
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     FILE 'WPIX' ENTERED AT 11:42:39 ON 19 SEP 2008
L74           11 SEA L50 OR L58 OR L70

     FILE 'HCAPLUS' ENTERED AT 11:43:40 ON 19 SEP 2008
L75         8652 SEA BLUM ?/AU
L76            2 SEA ZIERES ?/AU
L77            1 SEA L75 AND L76




=> FILE HCA
FILE 'HCA' ENTERED AT 12:01:18 ON 19 SEP 2008
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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=> D L73 1-6 BIB ABS HITIND

L73  ANSWER 1 OF 6  HCA  COPYRIGHT 2008 ACS on STN
AN   144:124468  HCA  Full-text
TI   Reactor for chemical synthesis, especially of oligonucleotides and
     peptides
IN   Iyer, Radhakrishnan P.; Padmanabhan, Seetharamaiyer; Coughlin, John
     Edward
PA   USA
SO   U.S. Pat. Appl. Publ., 11 pp.
     CODEN: USXXCO
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------
     --------
PI   US 20060014176       A1    20060119    US 2005-137677
                                                                  200505
                                                                  25
PRAI US 2004-574465P      P     20040526
     US 2004-583414P      P     20040628
     US 2004-626597P      P     20041110
     US 2005-647734P      P     20050127
AB    The present invention relates to the design and use of a multipurpose
      reactor that may be adapted to accommodate a wide variety of solid
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phase and liq. phase reaction chemistries. Reaction vessels for chem. synthesis; methods of solid-phase synthesis of oligonucleotides or peptides; multipurpose reaction vessels for use in synthesis of oligonucleotides, peptides and carbohydrates by solid-phase synthesis; and a reaction vessel for purifn. and isolation of mols. by chromatog. are described. In one embodiment, a reaction vessel for chem. synthesis comprises: an upper chamber and a lower chamber, the upper chamber being removably joined to the lower chamber and in solid/liq./gas contact with the lower chamber, the upper chamber comprising a liq./solid/gas inlet; pressure relief means assocd. with at least one of the upper or lower chambers; a filter unit disposed in the lower chamber capable of supporting solid or soln. phase synthesis of a chem. above the filter while allowing excess reagents to pass below the filter; a collection reservoir assocd. with the lower chamber and in solid/liq./gas contact with the lower chamber below the filter; and switch means for preventing or allowing solid/liq./gas contact between the lower chamber and the collection reservoir. The dinucleotide 5'-U-(2'-OMe)-dA-3' was synthesized in the reactor by solid -phase synthesis with high efficiency. Excess phosphoramidite was recovered and CPG was recycled after functionalization. The crude dinucleotide was chromatog. purified in the reactor using Bonda Pak C-18 resin.

INCL 435006000; 435007100; 530333000; 536025300; 435287200

CC 9-1 (Biochemical Methods)
Section cross-reference(s): 33, 34

ST reactor synthesis oligonucleotide peptide solid phase; multipurpose reactor solid liq phase reaction chem; reaction vessel purifn isolation mol chromatog

IT Solid phase synthesis
(carbohydrate; reactor for chem. synthesis, esp. of oligonucleotides and peptides)

IT Solid phase synthesis
(combinatorial, multipurpose reaction vessel for use in; reactor for chem. synthesis, esp. of oligonucleotides and peptides)

IT Filters
(for supporting synthesis while allowing excess reagents to pass through; reactor for chem. synthesis, esp. of oligonucleotides and peptides)

IT Solid phase synthesis
(oligonucleotide; reactor for chem. synthesis, esp. of oligonucleotides and peptides)

IT Solid phase synthesis
(peptide; reactor for chem. synthesis, esp. of oligonucleotides and peptides)

IT Bioreactors
Collecting apparatus
Gases

Liquids
Organic synthesis
Pressure relief valves
Pumps
Reactors
Solid phase synthesis
Solids
Synthesis
(reactor for chem. synthesis, esp. of oligonucleotides and peptides)

IT Molecules
(small, multipurpose reaction vessel for use in solid or soln. phase combinatorial synthesis or manuf. of; reactor for chem. synthesis, esp. of oligonucleotides and peptides)

L73 ANSWER 2 OF 6 HCA COPYRIGHT 2008 ACS on STN
AN 143:9625 HCA Full-text
TI Reactor for solid phase synthesis
IN Blum, Martin; Zieres, Gerald
PA F. Hoffmann-La Roche A.-G., Switz.
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005051515	A1	20050609	WO 2004-EP13007	200411 17
EP 1689508	A1	20060816	EP 2004-797941	200411 17

PI WO 2005051515 A1 20050609 WO 2004-EP13007 200411 17

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1689508 A1 20060816 EP 2004-797941 200411 17

EP 1689508 B1 20071212
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS
JP 2007512125 T 20070517 JP 2006-540298 200411 17
AT 380572 T 20071215 AT 2004-797941 200411 17
ES 2297511 T3 20080501 ES 2004-797941 200411 17
US 20070081922 A1 20070412 US 2006-580993 200605 26
PRAI EP 2003-104393 A 20031126
WO 2004-EP13007 W 20041117
AB A reactor for solid phase synthesis comprises a vessel, a plurality of filters arranged in the vessel and a plurality of filtrate outlets for evacuating the filtrate out of the filters. Each filter is connected to one filtrate outlet. The reactor comprises means for delivering a gas into the vessel in a region of the vessel near to the bottom of the vessel and beside the filters.
IC ICM B01D029-62
CC 47-3 (Apparatus and Plant Equipment)
ST reactor solid phase synthesis
IT Filters
Reactors
Solid phase synthesis
(reactor for solid phase synthesis)
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L73 ANSWER 3 OF 6 HCA COPYRIGHT 2008 ACS on STN
AN 131:171968 HCA Full-text
TI Reaction vessel filter for combinatorial chemistry, biological reactions, or clinical analysis
IN Kath, Gary S.; King, Gregory W.
PA Merck and Co., Inc., USA
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI US 5945070 A 19990831 US 1997-955434
199710
21
PRAI US 1996-29350P P 19961031
AB A filter tube for a reaction vessel is described which maintains the vessel under an inert gas atm. and maintains the integrity of the inert gas seal during filtered or unfiltered filling or filtered draining operations. The filter tube consists of a plastic filter sipper tube insert and a transfer probe (e.g., concentric cannula) for a septum sealed vessel. The bottom end of the sipper tube contains a porous frit. The reaction vessel can be used for lab. and clin. operations, automated solid phase synthesis, and screening, requiring air-tight operation.
IC ICM B01L011-00
INCL 422101000
CC 47-3 (Apparatus and Plant Equipment)
Section cross-reference(s): 9, 21, 34, 63
ST reaction vessel air tight filter tube; combinatorial chem air tight reaction vessel; clin analyzer air tight reaction vessel; biol screening air tight reaction vessel
IT Clinical analyzers
Combinatorial chemistry
Drug screening
Solid phase synthesis
(filter for air-tight reaction vessel for combinatorial chem., biol. reaction, or clin. anal.)
IT Laboratory ware
(reaction vessels; filter for air-tight reaction vessel for combinatorial chem., biol. reaction, or clin. anal.)
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L73 ANSWER 4 OF 6 HCA COPYRIGHT 2008 ACS on STN
AN 130:198292 HCA Full-text
TI Deflected septum seal access port for laboratory vessels
IN Kath, Gary S.; Yang, Lihu; King, Gregory W.
PA Merck and Co., Inc., USA
SO U.S., 8 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5882601	A	19990316	US 1997-877986	199706

PRAI US 1997-877986 19970618

AB An access port for reaction or other fluid vessels which maintains the vessel under an inert gas atm. and maintains the integrity of the inert gas seal while performing filtered filling or draining operations is presented. The port uses a deflected septum sealing method. The septum seal can be used for venting via a sep. venting cannula which acts in cooperation with a transfer cannula. A sipper tube functions to mix the contents of the vessel. The invention can be used for a no. of lab. and clin. operations on a variety of size and shape vessels. The combination of the appropriate vessel with this access port is very well suited for use in lab. automation systems, such as automated solid phase chem. synthesis, biol. screening, combinatorial chem. and other areas where reaction chem. is conducted.

IC ICM B01L003-02

INCL 422102000

CC 47-10 (Apparatus and Plant Equipment)
Section cross-reference(s): 9, 21, 34

IT Combinatorial chemistry
Solid phase synthesis
(app.; deflected septum seal access port for lab. reaction app.)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L73 ANSWER 5 OF 6 HCA COPYRIGHT 2008 ACS on STN

AN 127:176726 HCA Full-text

OREF 127:34247a,34250a

TI Apparatus and method for combinatorial library synthesis

IN Lam, Kit Sang; Salmon, Sydney E.

PA Arizona Board of Regents, on behalf of the University of Arizona, USA

SO U.S., 11 pp., Cont. of U.S. Ser. No. 795,164, abandoned.
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5651943	A	19970729	US 1994-273090	199407 11

PRAI US 1991-795164 B1 19911119

AB An app. and method are provided for the synthesis of compds., e.g., oligomers or polymers, by the repeated steps of coupling various subunits onto solid supports. The app. has for a first member a

vessel having chambers opening to a surface of the member, and has for a second member a vessel having a single chamber opening to a surface of the second member. The chambers preferably have filtered apertures to permit passage of gas or liq. while retaining the solid supports in the chambers. The first member is joined with the second member, forming a pair, such that the openings of the first member open into the second member. The first member is used for synthesis reactions and for holding unmixed compds. coupled to solid supports. The second member is used for mixing the solid supports. The solid supports are transferred from one member to another, e.g., by inverting the pair. The chambers of the first member are arranged such that transfer of compd. coupled to solid supports from the first member to the second redistributes in a substantially uniform manner.

IC ICM C08F002-00
ICS C07K001-04
INCL 422131000
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 21, 47
IT Combinatorial library
Peptide library
Solid phase synthesis
(app. and method for combinatorial library synthesis)
IT Solid phase synthesis
(peptide; app. and method for combinatorial library synthesis)

L73 ANSWER 6 OF 6 HCA COPYRIGHT 2008 ACS on STN
AN 119:250517 HCA Full-text
OREF 119:44718a
TI Apparatus for isolation of synthetic peptide without loss of reagents
IN Nokihara, Kiyoshi; Yamamoto, Rintaro; Nakamura, Shin
PA Shimadzu Corp., Japan
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 558050	A1	19930901	EP 1993-103089	19930226
EP 558050	B1	19960925		
R: DE, FR, GB, SE				
JP 05239089	A	19930917	JP 1992-43312	19920202

JP 07094468 B 19951011
US 5356596 A 19941018 US 1993-22036
199302
24
PRAI JP 1992-43312 A 19920228

AB The title app., used in conjunction with a multiple-channel, solid-phase peptide synthesizer, comprises (1) at least one removable reaction vessel which carries out both synthesis and resin-cleavage reaction-isolation of peptides and has a flanged supply opening for reagents and a drainage port covered by a filter impermeable to a solid support matrix, (2) a removable stopper for plugging said drainage port, and (3) a blow unit capable of supplying inert gas under regulable pressure into a reaction chamber which is defined by said reaction vessel and said filter, in order to purge said reaction chamber of a peptide soln. therein as a liq. phase and forcibly pass it via said filter through said drainage port. The app. further comprises a stand rack for retainably supporting a plurality of centrifuge tubes simultaneously. Prior to cleavage of peptides from a resin support, a drainage port of each reaction vessel is closed off by a stopper and is inserted into a centrifuge tube, which in turn is put into said rack supporting a no. of tubes equal to the no. of channels of the peptide synthesizer. After a cleaving soln. is added in each of the reaction vessels and the peptides are cleaved and dissolved into the cleaving soln., the stoppers are removed from the drainage port of each reaction vessel, and the vessel is returned into the centrifuge tube. A plastic jet-fitting attached to the nozzle tip of a blow unit pressure gun is inserted and pressed into contact against the supply opening of the reaction vessel. Operating a trigger of the pressure gun releases pressurized inert gas into the reaction chamber. The peptide-dissolved cleaving soln. is thereby passed through the drainage port, and is thus transferred in liq. phase into the centrifuge tube as filtrate assocd. with the blow unit pressure gun, a needle tube is provided for localized desiccation of wetted peptide after pptn. and centrifugation. The app. and the use of the same reaction vessel for the peptide synthesis as well as its resin-cleavage and isolation improves the efficiency of the peptide isolation procedure overall, in particular to eliminate mech. losses resulting from intervessel transfer of a peptide-bound resin or peptide soln. and contamination in the isolation process and thus ensure accuracy in micro-mol. regulation of small-scale peptide synthesis.

IC ICM B01J019-00
ICS C07K001-04
CC 34-3 (Amino Acids, Peptides, and Proteins)
ST solid phase peptide synthesis
isolation app; removable reaction vessel centrifugation tube rack;

blow unit peptide soln transfer
IT Peptides, preparation
(solid-phase synthesis of, app.
having removable reaction vessel for peptide synthesis and
resin-cleavage and isolation and blow unit for)

=> FILE WPIX
FILE 'WPIX' ENTERED AT 12:01:55 ON 19 SEP 2008
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FILE LAST UPDATED: 12 SEP 2008 <20080912/UP>
MOST RECENT UPDATE: 200858 <200858/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

=> D L74 1-11 MAX

L74 ANSWER 1 OF 11 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 2008-A17371 [01] WPIX Full-text
ED 20080102
CR 2007-816167
DNC C2008-004477 [01]
DNN N2008-013776 [01]
TI New microfluidic cartridge comprising fluidic subcircuits formed in a single integrated member, useful for performing a bioassay for detecting a pathogen or pathogenic condition
DC A89; B04; D16; J04; S03
IN BATTRELL C F; BREIDFORD W L; CLEMMENS J; GERDES J; HOEKSTRA D M; KOKORIS M; MORDUE S; NABAVI M; WILLIFORD J R
PA (MICR-N) MICRONICS INC
CYC 117
PI WO 2007106579 A2 20070920 (200801)* EN 114[28]
WO 2007106579 A3 20080228 (200817) EN
ADT WO 2007106579 A2 WO 2007-US6584 20070315
PRAI US 2006-844811P 20060914
US 2006-782649P 20060315
IPCI B01L0003-00 [I,A]; B01L0003-00 [I,C]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C]; G01N [,S]
EPC B01F0011-00L; B01F0013-00M; B01L0003-00C6M; C12Q0001-68B10+565/659+563/143+525/197; C12Q0001-68D4+563/131
ICO L01L0007:00D; L01L0200:00H2; L01L0200:00L; L01L0200:00R; L01L0300:00D4W; L01L0300:00G10B; L01L0300:00G10C; L01L0300:00G12; L01L0300:00G4C; L01L0400:04M4; L01L0400:06M2; L01L0400:06M8
AB WO 2007106579 A2 UPAB: 20080102

NOVELTY - A new microfluidic cartridge for performing a bioassay comprises:

(1) a fluidic subcircuit for extracting nucleic acids from a biosample;

(2) a fluidic subcircuit for synthesizing amplicons; and

(3) a fluidic subcircuit with means for detecting amplicons.

The fluidic subcircuits are formed in a single integrated member.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are:

(1) a kit comprising the microfluidic cartridge;

(2) a molecular detection complex for detecting a pathogen or pathogenic condition;

(3) an assay method for detecting a pathogen or pathogenic condition, where the molecular detection complex is an assay intermediate;

(4) a method of performing PCR in the microfluidic cartridge; and

(5) an apparatus for performing a bioassay comprising the microfluidic cartridge.

USE - The microfluidic cartridge is useful for performing a bioassay for detecting a pathogen or pathogenic condition (claimed).

ADVANTAGE - The device of the invention is single-entry, sanitary and disposable. The device enables simplex or multiplex nucleic acid target detection, e.g., assay panels for multiple infectious agents, or assay panels for cancerous cell types.

DESCRIPTION OF DRAWINGS - The figure shows a schematic diagram of the microfluidic subcircuit 100 for sample processing and nucleic acid extraction. The microfluidic subcircuit includes a sample port, a lysis chamber, a lysis buffer pouch, a nucleic acid target capture assembly, a solvent wash pouch, an elution buffer pouch and an optional control.

TECH BIOTECHNOLOGY - Preferred Cartridge: The microfluidic cartridge for performing a bioassay comprises:

(1) a fluidic subcircuit for extracting nucleic acids from a biosample;

(2) a fluidic subcircuit for synthesizing amplicons; and

(3) a fluidic subcircuit with means for detecting amplicons.

The fluidic subcircuits are formed in a single integrated member. The cartridge is a biosafe, disposable, integrated microfluidic cartridge that further comprises all bioassay reagents for a single assay and a sanitary waste receptacle. The biosafe, disposable, integrated microfluidic cartridge comprises all bioassay reagents for a single assay and a sanitary waste receptacle, and further comprises means for isolation consisting of impermeable cartridge body, gas permeable hydrophobic venting, gas permeable hydrophobic in-line filter, bibulous padding in the waste chamber, disinfectant in the waste

chamber, elastomeric membrane separating pneumatic actuator from blister pack, valve with elastomeric membrane actuated by suction pressure, suction pressure in the sample entry port, snap-lock closure over sample entry port, on-board reagent pack, or single-entry sample entry port. The fluidic subcircuit with means for detecting amplicons further comprises a multiplex detection chamber with low pressure gas plasma treated test pads to which an antibody is bound. The cartridge is an integrated microfluidic cartridge, where the means for detecting amplicons further comprises a test pad for visualization of a molecular binding complex comprising a two-tailed amplicon having a first end and a second end, the first end comprising a first primer covalently conjugated with a peptidyl hapten, and the second end comprising a second primer covalently conjugated with a ligand, the first end further comprising a peptidyl hapten-bound antibody immobilized to the test pad and the second end further comprising a ligand-bound, ligand capture agent coated magnetic bead. The integrated microfluidic cartridge comprises: (a) a sample entry port, a nucleic acid target capture assembly chamber, a lysis buffer chamber, a wash reagent chamber, an elution buffer chamber, a rehydration buffer chamber, a vented waste chamber, a PCR fluidics and thermal interface assembly, a mag mixer chamber, a mag bead reservoir, and a detection chamber; (b) a first microchannel fluidically and valvedly interconnecting the sample port and the lysis chamber; (c) a second microchannel fluidically and valvedly interconnecting the lysis chamber with the nucleic acid target capture assembly chamber; (d) a third microchannel fluidically and valvedly interconnecting the lysis chamber with the lysis buffer pouch chamber; (e) a fourth microchannel fluidically and valvedly interconnecting the nucleic acid target capture assembly chamber and the wash buffer chamber; (f) a fifth microchannel fluidically and valvedly interconnecting the nucleic acid target capture assembly chamber and the elution buffer chamber; (g) a sixth microchannel fluidically and valvedly interconnecting the nucleic acid target capture assembly chamber and the PCR fluidics and thermal interface assembly; (h) a seventh microchannel fluidically and valvedly interconnecting the PCR fluids and thermal interface assembly and the mag mixer chamber; (i) an eighth microchannel fluidically and valvedly interconnecting at least one mag mixer chamber and the rehydration buffer chamber, the sixth microchannel further comprising a mag bead reservoir interposed between the rehydration buffer chamber and the mag mixer

chamber; (j) a ninth microchannel fluidically and valvedly interconnecting the mag mixer chamber and the detection chamber; (k) a tenth microchannel fluidically and valvedly interconnecting the nucleic acid target capture assembly chamber and the vented waste chamber; (1) an eleventh microchannel fluidically and valvedly interconnecting the detection chamber and the vented waste chamber, and further comprising internal pneumatic control elements comprising diaphragm-operated valves and bellows chambers, where the internal pneumatic control elements are provided with pneumatic interconnect circuitry for connection to an external controllable pneumatic actuation manifold. The pneumatic control elements with pneumatic interconnect circuit comprise a liquid inlet, liquid outlet, and elastomeric diaphragm separating liquid from the pneumatic interconnect circuit. The pneumatic interconnect circuitry comprises independent or ganged pneumatic control circuitry. The lysis buffer chamber further comprises a blister pack containing an aqueous reagent comprised of guanidinium thiocyanate and at least one detergent and the nucleic acid target capture assembly chamber comprises a silicate solid phase. The elution buffer chamber further comprises a blister pack containing a dilute aqueous reagent with buffer and MgCl2. The elution buffer chamber is fluidly connectable with the nucleic acid target capture assembly chamber and the PCR fluidics and thermal interface assembly. The elution buffer chamber further comprises a blister pack containing an aqueous reagent comprised of a buffer and a detergent and the wash reagent chamber comprises a blister pack containing an alcoholic reagent. The PCR fluidics and thermal interface assembly further comprises a dehydrated reagent comprised of at least one primer pair. The dehydrated reagent further comprises dNTP, polymerase, magnesium salt, and a reagent consisting of albumin, polyoxyethylene glycol, trehalose, sodium chloride, buffer or detergent. The vented waste chamber further comprises a hydrophobic, gas-permeable filter. The PCR fluidics and thermal interface assembly comprises a pair of bellows pumps and two off-device thermal controllers with heat transfer elements, each thermal controller configured for operation at a fixed temperature and contacted with one of the pair of bellows pumps at the heat transfer element. The PCR fluidics and thermal interface assembly further comprises a single chamber configured with means for ramped temperature cycling. The integrated microfluidic cartridge further comprises: (a) a sample inlet port with sealable and lockable cover; (b) PCR fluidics and thermal interface assemblies fluidically connected in parallel between the target capture assembly chamber and the detection chamber; and (c) a cDNA synthesis chamber

fluidically interposed between the nucleic acid target capture assembly chamber and the PCR fluidics and thermal interface assembly. The dehydrated primer pair further comprises a first primer and a second primer. The first primer comprises an oligonucleotide primer conjugated to a peptidyl hapten. The second primer comprises an oligonucleotide primer conjugated to a ligand. The ligand is biotin. The detection chamber further comprises at least one test pad, and the test pad comprises a capture agent immobilized on a solid-phase. The capture agent is an anti-peptidyl hapten antibody. The mag bead chamber comprises dehydrated magnetic beads further comprising a ligand binding agent. The ligand binding agent is an avidin. The PCR fluidics and thermal interface assemblies that are fluidly contacted in parallel between the target capture assembly chamber and the mag mixing chamber contain at least one primer pair in each PCR fluidics and thermal interface assembly. The integrated microfluidic cartridge comprises: (a) a means for extracting nucleic acids from a biosample; (b) a means for synthesizing amplicons; and (c) a means for detecting amplicons. The means for extracting nucleic acids from a biosample comprises a fluidic subcircuit for extracting nucleic acids from a biosample with solid phase. The means for synthesizing amplicons comprises a fluidic subcircuit for synthesizing amplicons without mechanical mixing element. The means for detecting amplicons comprises a fluidic subcircuit with multiplex detection chamber and optical window in a single integrated disposable member, and the fluidics of the single integrated member are controllable by internal pneumatic control elements comprising diaphragm-operated valves and bellows chambers. The internal pneumatic control elements are provided with pneumatic interconnect circuitry for connection to an external controllable pneumatic actuation manifold. The means for synthesizing amplicons further comprises: (a) a first bellows chamber fluidly interconnected with a second bellows chamber; (b) a thermal interface, where the first and second bellows chambers are held at different fixed temperatures. Each bellows chamber further comprises a diaphragm for reciprocal pumping of fluid between the first and second bellows chambers. The means for synthesizing amplicons comprises a fluidics and thermal interface assembly sealed on the underside of the device with a plastic film having a thermal conductivity of greater than about 1 W/m-K. The microfluidic cartridge further comprises a cDNA synthesis chamber interposed on the sixth microchannel. The cDNA synthesis chamber is configured for temperature control The combination of fluidic subcircuit for extracting nucleic acids from a biosample, fluidic subcircuit for synthesizing amplicons, and fluidic subcircuit with means for

detecting amplicons, in a single integrated member, is controllable by internal pneumatic control elements comprising diaphragm-operated valves and bellows chambers, where the pneumatic control elements are provided with pneumatic interconnect circuitry for connection to an external controllable pneumatic actuation manifold. Preferred Kit: The kit further comprises at least one peptidyl hapten conjugated first primer hybridizing to the nucleic acid sequence of a pathogenic organism or of an oncogene. Preferred Complex: The molecular detection complex for detecting a pathogen or pathogenic condition comprises a two-tailed amplicon with first end and second end, the first end comprising a first primer covalently conjugated with a peptidyl hapten, and the second end comprising a second primer covalently conjugated with a ligand, the first end further comprising a ligand-bound ligand binding agent-coated reporter group, and the second end further comprising a peptidyl hapten bound anti-peptidyl hapten antibody, the complex further being immobilized on a solid phase. The reporter group is a magnetic microbead. The ligand is a biotin and the ligand binding agent is an avidin. The solid phase is a test pad. The solid phase is a barcoded fluorescent latex bead. Preferred Apparatus: The apparatus further comprises an off-device magnet configured for manipulation of a magnetic microbead reagent, and the magnet is optionally mounted in a movable carriage. The apparatus further comprises an actuation manifold with pneumatic interconnect ports configured for connection to the pneumatic control elements of the microfluidic cartridge. The apparatus further comprises a microprocessor with valve logic programming configured to control the pneumatic actuation of the pneumatic control elements. Preferred Method: The assay method for detecting a pathogen or pathogenic condition, where the molecular detection complex is an assay intermediate, is for simplex assay of a biosample for a target nucleic acid associated with a pathogen or pathogenic condition, and comprises: (a) selecting a first primer having a hybridization specificity for the 5' end of a target nucleic acid sequence, and synthesizing a peptidyl hapten-conjugated first primer; (b) selecting a second primer having a hybridization specificity for the 3' end of the target nucleic acid sequence, and synthesizing a ligand-conjugated second primer, the first and second primers forming a primer pair; (c) synthesizing two-tailed amplicon products comprising the peptidyl hapten-conjugated first primer and the ligand-conjugated second primer by amplifying the target nucleic acid sequence in the presence of the primer pair; (d) contacting the amplification mixture products with ligand binding agent-coated magnetic beads to capture the two-tailed amplicons comprising the ligand conjugated second primer; (e) contacting the amplification mixture products with an anti-peptidyl hapten antibody, where the antibody is immobilized on a test pad; and capturing the two-tailed amplicons on the test pad in the form of a molecular detection

complex; and (f) scoring the assay as positive for a pathogen or pathogenic condition by detecting a molecular detection complex. The assay method is for multiplex assay of pathogens or pathogenic conditions associated with the presence of target nucleic acid sequences in a sample and comprises: (a) selecting a first primer having a hybridization specificity for the 5' end of a first target nucleic acid sequence, and synthesizing a peptidyl hapten-conjugated first primer; (b) selecting a second primer having a hybridization specificity for the 3' end of the first target nucleic acid sequence, and synthesizing a ligand-conjugated second primer, the first and second primers forming a primer pair; (c) synthesizing two-tailed amplicon products comprising the peptidyl hapten-conjugated first primer and the ligand-conjugated second primer by amplifying the target nucleic acid sequence in the presence of the primer pair; (d) repeating steps (a), (b), and (c) for each of the target nucleic acid sequences; (e) contacting the amplification mixture products with ligand binding agent-coated magnetic beads to capture aid two-tailed amplicons comprising the ligand-conjugated second primers; (f) contacting the amplification mixture products with test pads, where each test pad comprises an immobilized antibody species complementary for a peptidyl hapten, and capturing the two-tailed amplicons on the test pad in the form of one or more molecular detection complexes; (g) scoring the assay as positive for pathogens or pathogenic conditions by detecting one or more molecular detection complexes. The assay is scored for target molecules in a single multiplex detection chamber.

The assay method is for nested amplification assay of a biosample for pathogens or pathogenic conditions associated with the presence of target nucleic acid sequences in a sample and comprises: (a) selecting a first primer sequence having a hybridization specificity for the 5' end of a target nucleic acid sequence, and synthesizing a ligand-conjugated first primer; (b) selecting a second primer sequence having a hybridization specificity for the 3' end of a target nucleic acid sequence and synthesizing a second primer, the first and second primers forming a first primer pair; (c) synthesizing one-tailed amplicon products comprising the ligand conjugated first primer and the second primer by amplifying the target nucleic acid sequence by PCR in the presence of the first and second primers; (d) selecting a third primer sequence having a hybridization specificity for a 3' end of the target nucleic acid sequence between the first and second primer, and synthesizing a peptidyl hapten-conjugated third primer, the first and third primers forming a second primer pair; (e) transferring the amplification mixture products resulting from step (c) into a separate chamber comprising the second primer pair and amplifying the target nucleic acid sequence by PCR to form a two-tailed amplicon comprising the ligand conjugated first primer and the peptidyl hapten-conjugated

third primer; (f) contacting the amplification mixture products from step (e) with ligand binding agent-coated magnetic beads to capture the two-tailed amplicons comprising the ligand-conjugated first primer; (g) contacting the amplification mixture products from step (f) with an anti-peptidyl hapten antibody, where the antibody is immobilized on a test pad; and capturing the two-tailed amplicons on the test pad in the form of a molecular detection complex; and (h) scoring the assay as positive for pathogens or pathogenic conditions by detecting one or more molecular detection complexes. The assay is scored for target nucleic acid sequences in a single multiplex detection chamber. All steps after biosample is placed in the sample entry port are automated. Performing PCR in the microfluidic cartridge comprises: (a) forming a reaction mixture comprising DNA template, primers, polymerase, dNTPs, buffer and a magnesium salt in a first bellows chamber fluidly interconnected to a second bellows chamber, the first bellows chamber being held at a fixed temperature at or above the denaturation temperature of double stranded DNA and the second bellows chamber being held at a fixed temperature at or below the annealing temperature of the template and the primers; (b) introducing a nucleic acid target sequence into the first bellows chamber; (c) applying pneumatic pressure to a diaphragm so as to effect transfer of the reaction mixture from the first bellows chamber to the second bellows chamber and incubating; (d) applying pneumatic pressure to a diaphragm so as to effect transfer of the reaction mixture from the second bellows chamber to the first bellows chamber; (e) repeating steps (b) and (c) for a number of thermocycles; and (f) removing the amplification products.

ABEX EXAMPLE - No suitable example given.

FS CPI; EPI

MC CPI: A12-L04; A12-V03C2; A12-W11L; B04-E05; B04-F09; B04-F10; B04-F11; B11-C08C1; B11-C08E3; B11-C08E5; B12-K04A4; B12-K04F; D05-H04; D05-H05; D05-H06; D05-H09; D05-H18B; J04-X04
EPI: S03-E09F; S03-E14H; S03-H01B

PLE UPA 20080102
[1.1] 2004 P0000;
[1.2] 2004 ND01; K9416; Q9999 Q7794-R; Q9999 Q8082; Q9999 Q7294; Q9999 Q7998 Q7987;

CMC UPB 20080102
M6 *01* P831 Q233 Q505 R515 R521 R530 R627 R639 M905

L74 ANSWER 2 OF 11 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 2006-099418 [10] WPIX Full-text
ED 20060209
DNC C2006-035435 [10]
DNN N2006-086245 [10]
TI Multipurpose reaction vessel useful for chemical synthesis, and for solid-phase oligonucleotide or

peptides synthesis, comprises upper chamber and lower chamber, pressure relief unit, filter unit, collection reservoir, and switch unit

DC B04; D16; S03

IN COUGHLIN J E; IYER R P; PADMANABHAN S

PA (COUG-I) COUGHLIN J E; (IYER-I) IYER R P; (PADM-I) PADMANABHAN S

CYC 1

PI US 20060014176 A1 20060119 (200610)* EN 11[3]

ADT US 20060014176 A1 Provisional US 2004-574465P 20040526; US 20060014176 A1 Provisional US 2004-583414P 20040628; US 20060014176 A1 Provisional US 2004-626597P 20041110; US 20060014176 A1 Provisional US 2005-647734P 20050127; US 20060014176 A1 US 2005-137677 20050525

PRAI US 2005-137677 20050525
US 2004-574465P 20040526
US 2004-583414P 20040628
US 2004-626597P 20041110
US 2005-647734P 20050127

IPCI C07H0021-00 [I,C]; C07H0021-04 [I,A]; C07K0001-00 [I,C]; C07K0001-02 [I,A]; C12M0001-34 [I,A]; C12M0001-34 [I,C]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C]; G01N0033-53 [I,A]; G01N0033-53 [I,C]

EPC B01J0019-00C; C07K0001-18

ICO L01J0219:00C10B2; L01J0219:00C10B4; L01J0219:00C2B10B2; L01J0219:00C2B2D; L01J0219:00C2D12J; L01J0219:00C2D2; L01J0219:00C2D20; L01J0219:00C2D2B; L01J0219:00C2F2; L01J0219:00C2J4; L01J0219:00C2L2; L01J0219:00C4D; L01J0219:00C4H; L01L0003:00B

NCL NCLM 435/006.000
NCLS 435/007.100; 435/287.200; 530/333.000; 536/025.300

AB US 20060014176 A1 UPAB: 20060209

NOVELTY - Multipurpose reaction vessel (I) for chemical synthesis, comprises an upper chamber having liquid/solid/ gas inlet, and a lower chamber, pressure relief unit associated with at least one of the upper or lower chambers, filter unit disposed in lower chamber, collection reservoir associated with lower chamber, and switch unit for preventing or allowing solid/liquid/gas contact between the lower chamber and the collection reservoir.

DETAILED DESCRIPTION - Multipurpose reaction vessel (1) (I) for chemical synthesis, comprises an upper chamber (10) and a lower chamber (12), the upper chamber being removably joined to the lower chamber and in solid/liquid/gas contact with the lower chamber, the upper chamber comprises a liquid/solid/gas inlet (16); pressure relief unit (18) associated with at least one of the upper or lower chambers; a filter unit disposed in the lower chamber capable of supporting solid or solution phase synthesis of a chemical above the filter while allowing excess reagents to pass below filter; a

collection reservoir associated with the lower chamber and in solid/liquid/gas contact with the lower chamber below the filter; and switch unit for preventing or allowing solid/liquid/gas contact between the lower chamber and the collection reservoir.

INDEPENDENT CLAIMS are also included for the following:

(1) an oligonucleotide prepared by solid- phase oligonucleotide synthesis;

(2) a peptide prepared by solid-phase peptide synthesis; and

(3) a reaction vessel (II) for purification and isolation of molecules by chromatography, comprising a cylindrical chamber having at least one solid/liquid/gas inlet and at least one solid/gas/liquid outlet, a filter unit disposed in the cylindrical chamber capable of supporting chromatography material while allowing liquid phase reagents to pass below the filter, a collection reservoir associated with the cylindrical chamber and in solid/liquid/gas contact with the cylindrical chamber below the filter, and where at least one solid/liquid/gas inlet and at least one solid/liquid/ gas outlet are connected through a conduit unit, where the conduit unit is connected to recycling unit capable of causing the recycling of material between one or more solid/liquid/gas inlet and one or more solid/liquid/gas outlet.

USE - (I) is useful for solid phase oligonucleotide or peptide synthesis, which involves providing (I), placing a resin-bound nucleotide or peptide, or modified nucleotide or peptide on the filter unit in the lower chamber of the reaction vessel, conducting stepwise oligonucleotide synthesis of an oligonucleotide or synthesis of peptide within the reaction vessel, and isolating the oligonucleotide from the resin, or a peptide.

(I) is useful for solid-phase synthesis, which involves providing (I), placing a resin-bound reagent on the filter unit in the lower chamber of (I), conducting a reaction of the resin bound reagent with another reactant within (I), and isolating the product.

(I) is useful for synthesizing carbohydrates by solid phase synthesis technology, for purifying recombinant protein, monoclonal antibodies and their conjugates using affinity chromatography, ion exchange chromatography or size-exclusion chromatography, in solid and solution phase combinatorial synthesis of small molecules, for manufacturing small molecules, and for preparing functionalized solid matrices chosen from beads, films and pins.

(II) is useful for purifying and isolating molecules by chromatography (all claimed).

(I) is useful in the functionalization and loading of various solid supports.

ADVANTAGE - (I) efficiently and rapidly mixes solid, liquid and gas phases for variety of application in solid and/or liquid phase reaction chemistries, and loads nucleosides on succinylated-controlled pore-glass (CPG).

DESCRIPTION OF DRAWINGS - The figure is a schematic diagram showing the design of the reactor.

reaction vessel (1)
upper chamber (10)
lower chamber (12)
gas/liquid/solid inlet (16)
pressure relief unit (18)

TECH INSTRUMENTATION AND TESTING - Preferred Vessel: (I) further comprises a sampling port in solid/liquid/gas contact with the lower chamber above the filter unit; a recycled reagent inlet port associated with the upper chamber and a recycled reagent outlet port associated with the lower chamber below the filter unit, where the recycled reagent inlet port and the recycled reagent outlet port are in solid/liquid/gas contact through a conduit unit; a pump in pressurized contact with the conduit unit, where the pump is capable of pumping excess reactants from the lower chamber into the upper chamber through the conduit unit; and reactants manifold in pressurized contact with the pump, where the reactants manifold is further in solid/liquid/gas contact with at least one reactants reservoir and the liquid/solid/gas inlet of the upper chamber through a reactant conduit unit.

(I) is mounted on a shaker assembly. In (II), the chromatography is chosen from affinity chromatography, ion exchange chromatography or size-exclusion chromatography. The molecules are synthetic or biologically derived macromolecules.

ABEX EXAMPLE - No relevant example is given.

IT UPIT 20060209
184610-CL 184610-PRD; 184611-CL 184611-PRD; 184592-CL 184592-PRD; 184587-CL 184587-PUR; 184616-CL 184616-PUR

FS CPI; EPI

MC CPI: B04-B03C; B04-C01; B04-D01; B04-G01; B04-G21; B04-N0400E; B11-C01A3; D05-H11A; D05-H13
EPI: S03-E09C5; S03-E13D; S03-E14H

CMC UPB 20060209
M1 *01* M423 M424 M720 M740 N104 N105 Q233 M905
DCN: RA013I-K RA013I-P
DCR: 184610-K 184610-P
M1 *02* M423 M424 M720 M740 N104 N105 Q233 M905
DCN: RA00H1-K RA00H1-P
DCR: 1012046-K 1012046-P 184611-K 184611-P
M1 *03* M423 M424 M720 M740 N104 N105 Q233 M905
DCN: RA0120-K RA0120-P
DCR: 184592-K 184592-P
M1 *04* M423 M424 M720 M740 N104 N105 N164 Q233 M905

DCN: RA00C8-K RA00C8-P
DCR: 184587-K 184587-P
M1 *05* M423 M424 M720 M740 N104 N105 N164 Q233 M905
DCN: RA00H3-K RA00H3-P
DCR: 184616-K 184616-P

L74 ANSWER 3 OF 11 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 2005-605240 [62] WPIX Full-text
ED 20051223
DNC C2005-182201 [62]
TI Preparation of optically active 5-substituted cyclohexenone derivatives useful for synthesis of complex compound involves treating achiral macrocyclic 3-substituted-1,5-diketone in presence of optically active alkoxide
DC E13
IN KNOPFF O
PA (FIRM-C) FIRMENICH SA; (KNOP-I) KNOPFF O; (FIRM-C) FIRMENICH & CIE
CYC 107
PI WO 2005077875 A1 20050825 (200562)* EN 25[0]
EP 1718591 A1 20061108 (200673) EN
US 20060252967 A1 20061109 (200674) EN
CN 1918100 A 20070221 (200743) ZH
IN 2006KN01743 P2 20070511 (200746) EN
JP 2007522257 W 20070809 (200754) JA 24
US 7332633 B2 20080219 (200816) EN
ADT WO 2005077875 A1 WO 2005-IB399 20050215; CN 1918100 A CN 2005-80004485 20050215; EP 1718591 A1 EP 2005-702515 20050215; EP 1718591 A1 WO 2005-IB399 20050215; US 20060252967 A1 Cont of WO 2005-IB399 20050215; IN 2006KN01743 P2 WO 2005-IB399 20050215; JP 2007522257 W WO 2005-IB399 20050215; JP 2007522257 W JP 2006-553702 20050215; IN 2006KN01743 P2 IN 2006-KN1743 20060622; US 20060252967 A1 US 2006-484451 20060710; US 7332633 B2 Cont of WO 2005-IB399 20050215; US 7332633 B2 US 2006-484451 20060710
FDT EP 1718591 A1 Based on WO 2005077875 A; JP 2007522257 W Based on WO 2005077875 A
PRAI EP 2004-100615 20040216
IC ICM C07C045-66
IPCI C07B0053-00 [I,A]; C07B0053-00 [I,C]; C07B0061-00 [N,A]; C07B0061-00 [N,C]; C07C0045-00 [I,C]; C07C0045-00 [I,C]; C07C0045-66 [I,A]; C07C0045-66 [I,A]; C07C0045-67 [I,A]; C07C0049-00 [I,C]; C07C0049-00 [I,C]; C07C0049-623 [I,A]; C07C0049-623 [I,A]
IPCR C07C0045-00 [I,C]; C07C0045-66 [I,A]; C07C0049-00 [I,C]; C07C0049-623 [I,A]
EPC C07C0045-66; C07C0045-66+49/623; C07C0049-623
ICO M07M0007:00
NCL NCLM 568/341.000
NCLS 568/343.000

AB WO 2005077875 A1 UPAB: 20080523

NOVELTY - Preparation of an optically active 5-substituted fused cyclohexenone derivative involves treating an achiral macrocyclic 3-substituted-1,5-diketone in the presence of an optically active sodium, potassium or cesium alkoxide.

DETAILED DESCRIPTION - Preparation of an optically active 5-substituted cyclohexenone derivative of formula (I) involves treating an achiral macrocyclic 3-substituted-1,5-diketone of formula (II) in the presence of an optically active sodium, potassium or cesium alkoxide.

R1 = optionally substituted linear 7-9C alkanediyl or alkenediyl;

R2 = 1-6C alkyl, 1-6C alkenyl or phenyl (all optionally substituted).

USE - For preparation of an optically active 5-substituted cyclohexenone (claimed) useful as an intermediate for synthesis of complex compounds e.g. steroids or macrocyclic ketones.

ADVANTAGE - The method provides (I) in presence of chiral alkoxide by using an achiral di-ketone that promotes aldol reaction, e.g. cyclization; thus allowing greater versatility.

TECH INORGANIC CHEMISTRY - The optically active alkoxide (preferably sodium or potassium alkoxide) has an e.e of at least 90%. The additive is an alkaline or alkaline earth hydride; a reaction-medium insoluble inorganic material to form clathrate with water; or an organic material reacting with water to form non-acidic compounds (preferably NaH, KH, anhydrous zeolite of the 4 Angstrom type, tert-BuONa or anhydrous KOH, NaOH, NaCl, Na2CO3 or Na2SO4).

ORGANIC CHEMISTRY - Preferred Process: The process is carried out in the presence of an additive and a solvent.

Preferred Components: (II) Is 3-methyl-1,5-cyclopentadecanedione. The optically active sodium, potassium or cesium alkoxide is an optically active sodium, potassium or cesium salt of 4-40C compound comprising 1 - 3 alkoxy groups, carbohydrates or polymer comprising optically active alkoxy groups, preferably 4-18C mono alcohol, 3-18C optically active 1,2-diol, 4-18C optically active 1,3-diol, 5-35C optically active 1,4-diol, 4-25C optically active alcohol containing nitrogen in beta position or 15-38C compound having at least three groups derived from the optically active alkoxide or supported on an insoluble material, where the insoluble material may be silica, Merrifield resin, gold or polystyrene. The 4-18C mono alcohol is of formula HOCH(R4)(R3), R3'-OH, R10-CH(OH)-CH2-O-R9 or a compound of formula (XV) (preferably (R)-2-methoxy-1-phenyl-ethanol or ((4S,5S)-2-(2-((4S,5S)-4-hydroxymethyl-5-(4-methylsulfanyl-phenyl)-4,5-dihydro-oxazol-2-yl)-phenyl)-5-(4-methylsulfanyl-phenyl)-4,5-dihydro-oxazol-4-yl)-methanol). The optically active diol is of formulae CH(OH)(R6)-CH(R6)(OH), R6-CH(OH)-CH2-CH(OH)-R6, a compound containing a group of formula -CH(OH)-CH(O-)-CH(O-)-CH(OH)-, a

compound containing a group of formula -CH(CH2OH)-cyclohexan-1,4-diyl (substituted on 2 position by OH), R10-CH(OH)-CH(OH)(R10), 2-hydroxy-1-(2-hydroxy-cyclohexyl)ethyl (substituted on 5 position with R11), or compound of formulae (VII) or (XII) (preferably (1S,2S)-1,2-diphenyl-ethane-1,2-diol, (1S,2S)-1,2-di-o-tolyl-ethane-1,2-diol, (3R,3aR,6R,6aR)-hexahydro-furo(3,2-b)furan-3,6-diol or (1R,3R,4S)-4-(1-hydroxymethyl-vinyl)-cyclohexane-1,3-diol)). The optically active 4-25C optically active alcohol is an optically active 1,2-amino-alcohol of formulae R3CH(OH)-CH(R7')N(R8')(R8), R12-CH(OH)-CH(R13)(N(R14)2) or an optically active iminoalcohol of formula R3CH=N-CH(R7')-CH(R3)(OH) or compound of formulae (IX), (IX') or (XIV) (preferably (1R,2S)-1-phenyl-2-pyrrolidin-1-yl-propan-1-ol), (1S,2R)-2-dimethylamino-1-phenyl-propan-1-ol, (1S,2R)-2-(isopropyl-methyl-amino)-1,2-diphenyl-ethanol, (R)-2-(benzyl-methyl-amino)-1-phenyl-ethanol, (1S,2S)-3-(tert-butyl-dimethyl-silanyloxy)-2-dimethylamino-1-(4-methylsulfanyl-phenyl)-propan-1-ol or ((4S,5S)-5-(4-methylsulfanyl-phenyl)-2-phenyl-4,5-dihydro-oxazol-4-yl)-methanol). The solvent is 4-6C ether, 3-6C amine, 3-6C amide, methylene chloride and/or 6-10C aromatic solvent.
R3 = 1-4C alkyl or optionally substituted phenyl;
R4 = 1-4C alkyl or C(R5)2(OR4');
R5 = H or R3;
R4' = phenyl or benzyl (both optionally substituted), 1-6C alkyl, 3-9C trialkyl silyl or triphenyl silyl;
R3' = 7-12C chiral hydrocarbon group;
R6 = 1-6C alkyl, COOR7 or optionally substituted phenyl;
R7 = 1-4C alkyl;
R7' = R4 or R5;
R8 = 1-9C alkyl, alkylbenzene or optionally substituted phenyl;
R8' = R8, SO2R3, R3CO, CH2CH2N(R3)2, Si(R3)3 or PO(OR3)2;
R3+R7' = 5-10C ring;
R7'+R8 = 4-5C heterocycle;
R8+R8' = 2-5C heterocycle;
R9 = 1-4C alkyl or optionally substituted with phenyl or benzyl;
R10 = phenyl (optionally mono-substituted with 1-4C alkyl;
R11=1-4C or H;
R12 = phenyl (optionally substituted with Cl, Br, SO2Me, F, SMe, OMe, NO2 or 1-4C alkyl);
R13 = 1-4C alkyl, R12 or CH2OSi(R13)3;
R14 = benzyl or 1-4C alkyl;
R14+R14 = 4-5C heterocycle.
ORGANIC CHEMISTRY - The optically active alkoxide (preferably sodium or potassium alkoxide) has an e.e of at least 90%. The additive is an alkaline or alkaline earth hydride; a reaction-medium insoluble inorganic material to form clathrate with water; or an organic material reacting with water to form non-acidic compounds (preferably NaH, KH, anhydrous zeolite of the 4 Angstrom type,

tert-BuONa or anhydrous KOH, NaOH, NaCl, Na2CO3 or Na2SO4).

ABEX DEFINITIONS - Preferred Definitions: - R2=1-6C alkyl.

SPECIFIC COMPOUNDS - Preparation of (R)/(S)-14-methyl-bicyclo(9.4.0)pentadec-1(11)-en-12-one is specifically claimed as (I).

EXAMPLE - In the reaction vessel, under inert atmosphere, 3-methyl-1,5-cyclopentadecanedione (126 mg), dry tetrahydrofuran (THF) (3 ml), optionally anhydrous molecular sieve 4 Angstrom (200 mg) or 2 molar equivalents of NaH, and Na-alkoxide were dissolved into dry THF (0.1 - 0.4 mol/l). The reaction mixture was stirred at room temperature followed by gas chromatography. To stop the reaction, the mixture was hydrolyzed with water or an aqueous 2N HCl solution. After extraction of the aqueous layer with diethyl ether the organic layer was dried over MgSO4 and filtered. The solvent was removed under vacuum and the residue was purified either by flash chromatography or by bulb to bulb distillation to give (R)/(S)-14-methyl-bicyclo(9.4.0)pentadec-1(11)-en-12-one (yield 99%).

IT UPIT 20051223
1131068-CL 1131068-PRD; 1131069-CL 1131069-PRD; 0203-72401-CL 0203-72401-PRD; 0203-72402-CL 0203-72402-PRD

FS CPI

MC CPI: E10-F02A1; E11-A

CMC UPB 20051223

M3 *01* G034 G690 J5 J561 M210 M211 M240 M281 M320 M415 M510 M520 M530 M541 M720 M800 N185 N209 N223 N243 N304 N313 N426 N511 N512 N513 M905 M904
RIN: 01947
DCN: RAJ040-K RAJ040-P
DCR: 1131068-K 1131068-P

M3 *02* G034 G690 J5 J561 M210 M211 M240 M281 M320 M415 M510 M520 M530 M541 M720 M800 N185 N209 N223 N243 N304 N313 N426 N511 N512 N513 M905 M904
RIN: 01947
DCN: RAJ041-K RAJ041-P
DCR: 1131069-K 1131069-P

M3 *03* G010 G011 G012 G013 G014 G015 G016 G017 G018 G034 G100 G111 G690 H715 H721 J5 J561 M113 M210 M211 M212 M213 M214 M215 M216 M231 M232 M233 M240 M280 M281 M320 M414 M415 M510 M511 M520 M530 M531 M540 M541 M720 M800 N185 N209 N223 N243 N304 N313 N426 N511 N512 N513 M905 M904
RIN: 01940 01947 01952
MCN: 0203-72401-K 0203-72401-P

M3 *04* G010 G011 G012 G013 G014 G015 G016 G017 G018 G034 G100 G111 G690 H715 H721 J5 J561 M113 M210 M211 M212 M213 M214 M215 M216 M231 M232 M233 M240 M280 M281 M320 M414 M415 M510 M511 M520 M530 M531 M540 M541 M720 M800 N185 N209

N223 N243 N304 N313 N426 N511 N512 N513 M905 M904
RIN: 01940 01947 01952
MCN: 0203-72402-K 0203-72402-P

L74 ANSWER 4 OF 11 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 2003-357377 [34] WPIX Full-text
ED 20050529
DNC C2003-094289 [34]
DNN N2003-285610 [34]
TI Modular automatic apparatus for synthesizing small organic molecules, particularly in the solid phase, using combining or parallel synthesis protocols
DC B04; J04; P73; Q66
IN FAUCHERE G; FAUCHERE J; FAUCHERE J L; HENLIN J; HENLIN J M; NEIMARK J
PA (CNRS-C) CENT NAT RECH SCI; (CNRS-C) CNRS CENT NAT RECH SCI; (FAUC-I) FAUCHERE G; (FAUC-I) FAUCHERE J; (HENL-I) HENLIN J; (SERV-N) LES LAB SERVIER; (NEIM-I) NEIMARK J
CYC 100
PI FR 2829404 A1 20030314 (200334)* FR 75[31]
WO 2003022420 A1 20030320 (200334) FR
EP 1425091 A1 20040609 (200438) FR
AU 2002362260 A1 20030324 (200460) EN
US 20050106707 A1 20050519 (200534) EN
EP 1425091 B1 20060712 (200652) FR
DE 60213106 E 20060824 (200657) DE
DE 60213106 T2 20070208 (200713) DE
ADT FR 2829404 A1 FR 2001-11694 20010910; AU 2002362260 A1 AU 2002-362260 20020909; DE 60213106 E DE 2002-613106 20020909; EP 1425091 A1 EP 2002-798000 20020909; EP 1425091 B1 EP 2002-798000 20020909; DE 60213106 E EP 2002-798000 20020909; WO 2003022420 A1 WO 2002-FR3059 20020909; EP 1425091 A1 WO 2002-FR3059 20020909; US 20050106707 A1 WO 2002-FR3059 20020909; EP 1425091 B1 WO 2002-FR3059 20020909; DE 60213106 E WO 2002-FR3059 20020909; US 20050106707 A1 US 2004-488993 20041012; DE 60213106 T2 DE 2002-613106 20020909; DE 60213106 T2 EP 2002-798000 20020909; DE 60213106 T2 WO 2002-FR3059 20020909
FDT DE 60213106 E Based on EP 1425091 A; EP 1425091 A1 Based on WO 2003022420 A; AU 2002362260 A1 Based on WO 2003022420 A; EP 1425091 B1 Based on WO 2003022420 A; DE 60213106 E Based on WO 2003022420 A; DE 60213106 T2 Based on EP 1425091 A; DE 60213106 T2 Based on WO 2003022420 A
PRAI FR 2001-11694 20010910
IC ICM B01J019-00
IPCI B01J0019-00 [I,A]; B01J0019-00 [I,A]; B01J0019-00 [I,C]; B01J0019-00 [I,C]
IPCR B01J0019-00 [I,A]; B01J0019-00 [I,C]

EPC B01J0019-00C
ICO L01J0219:00C10B; L01J0219:00C10B4; L01J0219:00C2B2D; L01J0219:00C2B4; L01J0219:00C2D; L01J0219:00C2D20; L01J0219:00C2H2; L01J0219:00C2J2; L01J0219:00C2J8; L01J0219:00C2K; L01J0219:00C2L2; L01J0219:00C4B; L01J0219:00C4D; L01J0219:00C4H; L01J0219:00C6F; L01J0219:00C6F2; M40B0040:10; M40B0060:14
NCL NCLM 435/287.100
NCLS 422/082.000; 435/007.100; 436/518.000
AB FR 2829404 A1 UPAB: 20060119

NOVELTY - Modular automatic apparatus, where a number of synthesis modules (2) each contain between 3 and 10, preferably 5 reactors (3), with one secondary mixing chamber (6) per module and a principal mixing chamber (7) for all the modules, is new. A single computer controls the flow through the circuits connecting these reactors and chambers, the means of heating and cooling the reactors and the means of mixing in the reactors.

DETAILED DESCRIPTION - Modular automatic apparatus, where a number of synthesis modules (2) each contain between 3 and 10, preferably 5 reactors (3), with one secondary mixing chamber (6) per module and a principal mixing chamber (7) for all the modules, is new. A single computer controls the flow through the circuits connecting these reactors and chambers, the means of heating and cooling the reactors and the means of mixing in the reactors. Each reactor has a tubular body with an upper injection and expansion plug and a lower fixed plug for controlled extraction and emptying. This contains a reaction chamber which is normally sealed closed and is temperature controlled by means of heating and cooling. The reaction chamber contains means of agitating the reaction medium by bubbling and/or using a mechanical device. A container (6) forms a secondary mixing chamber which can contain the same amount as all the reactors in a module and a supplementary container (7) forms the principal mixing chamber which can contain the same amount as all the different secondary mixing chambers. A circuit transfers the contents of the reactors to the secondary container associated with that module and/or the contents of the principal container to the secondary container or the reactors of one, several or all of the modules in the apparatus. Supply and evacuation circuits are connected to the different inlets and outlets of the reactors and containers to allow fluid circulation under the action of an inert or neutral propulsion gas. These are formed of interconnected pipes or sections of pipe linking the reactors and containers to each other and to solution reservoirs (9, 10, 11, 12) and expansion, supply and gas injection or bubbling lines via one-way or multiway (16, 17) valves and monoblocs with programmable nodes to configure the circuit and control distribution of the fluids in the circuit. In particular, a single computer is connected to electronic interface and multiplexing circuits to control the valves, the means of heating and cooling and

the means of agitating the contents of the reaction chambers, integrating the interfaces to communicate and be programmed by the operator. The apparatus contains three sub-units, one with five reactors and the other two with two modules of five reactors each. The reactors in each module are arranged to be at equal angles or equidistant arranged around a circle and mounted in a support structure containing the multi-way valves which control access to the reaction chambers. The fixed lower plug holds a filter and a drain. Each module is insulated thermally from the others. The means of heating and cooling are coils around each reactor. The principal and secondary containers are tubes containing several injection pipes for different solvents and substances for the synthesis. Intermediate synthesis products are mixed with their solid synthesis support in each reactor using a transfer and division process. In particular, the transfer solution carrying synthesis products in suspension is DCM (dichloromethane) or DMF (dimethylformamide).

An INDEPENDENT CLAIM is also included for a process of synthesizing organic molecules using a combinatory synthesis protocol in the solid phase using the novel apparatus.

USE - Synthesis of small organic molecules, in particular in the pharmaceutical industry.

ADVANTAGE - Combinatory synthesis in the solid phase rather than in solution facilitates the filtration and washing processes and allows automation of the process of making polypeptides and polynucleotides.

DESCRIPTION OF DRAWINGS - The drawing shows a partial schematic of an apparatus as described, showing its modular structure and the principal circuits for one sub-unit

Sub-unit (1)
Synthesis module (2)
Reactor (3)
Secondary mixing chamber (6)
Principal mixing chamber (7)
Pipe (8)
Reservoir (9)
Reservoir (10)
Reservoir (11).

IT UPIT 20060119
23-CL 23-USE; 27-CL 27-USE
FS CPI; GMPI
MC CPI: B10-D03; B10-H02F; B11-B; J04-B01B
CMC UPB 20060119
DRN: 0278-U 0345-U
DCR: 23-U 27-U
M2 *01* J0 J011 J3 J371 M210 M211 M273 M282 M320 M416 M424 M620 M740 M781 N104 Q435 M905 M904 M910
DCN: R00278-K R00278-U

DCR: 23-K 23-U
M2 *02* H6 H602 H608 H684 M280 M311 M321 M342 M363 M391 M416 M424 M620 M740 M781 N104 Q435 M905 M904 M910
DCN: R00345-K R00345-U
DCR: 27-K 27-U
M6 *03* Q435 R150 R502 R511 R521 R528 R530 R534 M905

L74 ANSWER 5 OF 11 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1998-021513 [03] WPIX Full-text
ED 20050520
DNN N1998-016448 [03]
TI Deflected septum seal access port - has cap with vent hole to allow escape of gas from vessel and inlet port which permits introduction of gas
AW CHEMICAL SYNTHESIS CLINICAL BIOLOGICAL FLUID HANDLING
DC Q33
IN KATH G S; KING G W; YANG L
PA (MERI-C) MERCK & CO INC
CYC 1
PI GB 2314322 A 19971224 (199803)* EN 16[6]
ADT GB 2314322 A GB 1997-12199 19970612
PRAI US 1996-20260P 19960621
IPCR A61J0001-00 [I,A]; A61J0001-00 [I,C]; B01J0019-00 [I,A]; B01J0019-00 [I,C]
EPC A61J0001-00C2; A61J0001-00M6; B01J0019-00C
ICO L01J0219:00C2B10B2; L01J0219:00C2B2B; L01J0219:00C2B4; L01J0219:00C2B4B; L01J0219:00C2D20; L01J0219:00C2D5; M40B0060:14
AB GB 2314322 A UPAB: 20050520
The access port comprises a cap (4) having a centrally located hole covered by a septum sheet (8) through which the ingress and egress of materials to and from the vessel are facilitated. A sipper tube (6) has an internal filter (7) which extends downwardly from the cap. The cap also includes a vent hole (11) to allow escape of the gas from the vessel and an inlet port (10) which permits the introduction of gas.
The cap may be provided with a pipetting device stop which may be positioned to limit the travel of a pipetting device into the vessel such that the septum sheet is pressed between the stop and the top of a sipper tube (15) upon insertion of the pipetting device, so as to form a seal between the pipetting device and the sipper tube. Preferably the sipper tube functions as a mixing device, wherein the sipper tube may be inserted through a ball bearing at the top of the vessel or may be plunger-shaped to operate with vertical motion relative to the vessel.
USE - For solid phase chemical synthesis or other chemistry, clinical or biological fluid handling operations which require fluid containment vessel.

ADVANTAGE - Permits fluid addition and waste or product removal from vessel while maintaining inert or reactive gas atmosphere within vessel.

FS GMPI

L74 ANSWER 6 OF 11 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1997-011318 [01] WPIX Full-text
ED 20050514
DNC C1997-003089 [01]
TI Compsns. comprising a substrate bonded to a sterically protected silane - are esp. useful in chromatographic applications, including electrophoresis
DC A89; B04; D16; E11; J04
IN BUESE M A
PA (ESIN-N) ES IND
CYC 1
PI US 5576453 A 19961119 (199701)* EN 6[1]
ADT US 5576453 A US 1994-276339 19940718
PRAI US 1994-276339 19940718
IPCR B01J0020-30 [I,C]; B01J0020-32 [I,A]
EPC B01J0020-32; G01N0030-48A1
NCL NCLM 556/400.000
NCLS 556/009.000; 556/010.000; 556/012.000; 556/466.000; 556/482.000
AB US 5576453 A UPAB: 20050514
Compsns. of formula (I) are new: R = alkyl (opt. substd.), alkenyl (opt. substd.) or aryl (opt. substd.); R1, R2 = sterically protecting gps.; P = a hydrated metal oxide, a hydrated metalloid oxide or an organic polymer.

USE - (I) are useful in efficient, highly stable packings for chromatographic sepns., both for analysis and large scale isolations; stable selective media for affinity chromatography separations; stable surface modifications of fuse-silica capillaries for use in capillary electrophoresis; highly selective catalysts for liquid phase reactions; solid phase synthesis of peptides, proteins and oligonucleotides; stable efficient matrices in peptide and nucleotide synthesising instruments; and highly selective phases in peptide and protein sequencing.

ADVANTAGE - (I) may be prepd. without the need for a hydrosilylation step. They exhibit stability over a wide pH range. (I) are economical to prepare.

ABDT US5576453
Compsns. of formula (I) are new:
R = alkyl (opt. substd.), alkenyl (opt. substd.) or aryl (opt. substd.);
R1, R2 = sterically protecting gps.;
P = a hydrated metal oxide, a hydrated metalloid oxide or an organic

polymer.
USE
(I) are useful in efficient, highly stable packings for chromatographic sepns., both for analysis and large scale isolations; stable selective media for affinity chromatography separations; stable surface modifications of fuse-silica capillaries for use in capillary electrophoresis; highly selective catalysts for liquid phase reactions; solid phase synthesis of peptides, proteins and oligonucleotides; stable efficient matrices in peptide and nucleotide synthesising instruments; and highly selective phases in peptide and protein sequencing.
ADVANTAGE
(I) may be prepd. without the need for a hydrosilylation step. They exhibit stability over a wide pH range. (I) are economical to prepare.
MORE SPECIFICALLY
R1, R2 may be selected from sec. alkyl and tert. alkyl (e.g. of 3-5C) and cycloalkyl (e.g. of 5-6C).
WIDER DISCLOSURE
The invention relates to compsns. (I) in which R is a gp. selected in accordance with the intended application.
PREPARATION
(I) may be prepd. by binding a bifunctional silane of formula (II) to a substrate P:
X = a reactive gp. which is more reactive than the OR gp. of the silane, e.g., amino, amido, enolate, chloro, bromo, iodo or aryl sulphonyl.
EXAMPLE
Di(2-propyl)octyloxychlorosilane (61.3 g) was added to a 1L 3-neck flask. Toluene (600 ml) was also added to the flask. The resulting soln. was stirred, cooled in an ice-bath, and dimethylamine gas was passed over the soln. until no further pptn. of dimethylamine hydrochloride was observed. The reaction mixt. was suspended for a further 15 mins. at room temp., then filtered under anhydrous conditions to give N,N-dimethylamino- di(2-propyl)octyloxysilane. Silica (Nucleosil 50-5; 45 g) was added to a 1L 3-neck flask and dried under vacuum at 200°C for 2 hrs. The flask was then cooled to room temp. The filtrate of N,N-dimethylaminodi(2-propyl)octyloxysilane was then added and the mixt. was stirred at room temp. for 4 hrs. It was then refluxed overnight. The resulting suspension was filtered, washed with toluene, methylene chloride, methanol and again with methylene chloride. The prod. was air dried to give di(2-propyl)octylsiloxyl bonded silica. The calculated coverage of C14H31OSi on the 393 m2/g Nucleosil 50-5 silica was 1.63 μmole/m2. (RMH)

FS CPI
MC CPI: A12-E09; A12-L04A; B05-B01B; B11-C09; D05-H09; D05-H10;

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          E05-E01; E05-E02C; J03-C; J04-B01C; J04-E
PLE  UPA   20050514
     [1.1]     018 P0000; M9999 M2391; M9999 M2777; M9999 M2802; L9999
               L2391; L9999 L2802; L9999 L2777;
     [1.2]     018 ND01; Q9999 Q7807 Q7794; Q9999 Q7874; Q9999 Q6917;
               Q9999 Q6939-R; Q9999 Q8082; Q9999 Q7396 Q7330; B9999 B4580
               B4568; ND06; ND03;
     [1.3]     018 Si 4A; H0157;
CMC  UPB   20050514
     M1 *01*   B414 B514 B712 B720 B741 B742 B831 G001 G002 G010 G011
               G012 G013 G020 G021 G022 G029 G030 G039 G040 G050 G100
               G111 G221 G553 G563 H713 H716 H721 M123 M125 M126 M129
               M144 M147 M210 M211 M212 M213 M214 M215 M216 M220 M221
               M222 M223 M224 M225 M226 M231 M232 M233 M250 M272 M280
               M281 M282 M313 M320 M321 M332 M342 M373 M391 M423 M510
               M520 M530 M531 M540 M541 M542 M620 M710 P831 Q233 Q421
               Q431 V741 V742 V743  M903 M904
               MCN: 9701-27401-N
     M2 *02*   B414 B514 B701 B713 B720 B741 B742 B798 B832 G001 G002
               G010 G011 G012 G013 G020 G021 G022 G029 G030 G039 G040
               G050 G100 G111 G221 G553 G563 H713 H716 H721 M123 M125
               M126 M129 M144 M147 M210 M211 M212 M213 M214 M215 M216
               M220 M221 M222 M223 M224 M225 M226 M231 M232 M233 M250
               M272 M280 M281 M282 M313 M320 M321 M332 M342 M373 M391
               M411 M510 M520 M530 M531 M540 M541 M542 M620 M710 P831
               Q233 Q421 Q431  M903 M904
               MCN: 9701-27402-N
     M2 *04*   A100 A200 A300 A400 A500 A600 A940 A960 B414 B514 B712
               B720 B741 B742 B831 C108 C720 G001 G002 G010 G011 G012
               G013 G020 G021 G022 G029 G030 G039 G040 G050 G100 G111
               G221 G553 G563 H713 H716 H721 M123 M125 M126 M129 M144
               M147 M210 M211 M212 M213 M214 M215 M216 M220 M221 M222
               M223 M224 M225 M226 M231 M232 M233 M250 M272 M280 M281
               M282 M313 M320 M321 M332 M342 M373 M391 M411 M510 M520
               M530 M531 M540 M541 M542 M620 M710 P831 Q233 Q421 Q431
               M903 M904
               MCN: 9701-27403-N
     M3 *03*   B414 B514 B701 B713 B720 B741 B742 B798 B832 G001 G002
               G010 G011 G012 G013 G020 G021 G022 G029 G030 G039 G040
               G050 G100 G111 G221 G553 G563 H713 H716 H721 M123 M125
               M126 M129 M144 M147 M210 M211 M212 M213 M214 M215 M216
               M220 M221 M222 M223 M224 M225 M226 M231 M232 M233 M250
               M272 M280 M281 M282 M313 M320 M321 M332 M342 M373 M391
               M411 M510 M520 M530 M531 M540 M541 M542 M620 M710 P831
               Q233 Q421 Q431  M903 M904
               MCN: 9701-27402-N
     M3 *05*   A100 A200 A300 A400 A500 A600 A940 A960 B414 B514 B712
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B720 B741 B742 B831 C108 C720 G001 G002 G010 G011 G012
G013 G020 G021 G022 G029 G030 G039 G040 G050 G100 G111
G221 G553 G563 H713 H716 H721 M123 M125 M126 M129 M144
M147 M210 M211 M212 M213 M214 M215 M216 M220 M221 M222
M223 M224 M225 M226 M231 M232 M233 M250 M272 M280 M281
M282 M313 M320 M321 M332 M342 M373 M391 M411 M510 M520
M530 M531 M540 M541 M542 M620 M710 P831 Q233 Q421 Q431
M903 M904
MCN: 9701-27403-N

L74 ANSWER 7 OF 11 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1996-059180 [07] WPIX Full-text
ED 20050511
DNC C1996-019753 [07]
TI Simultaneous, multiple solid phase synthesis of peptide(s), other bio-organic polymers, or libraries of them - with the mixing of all reaction mixts. and distribution of reagents etc., by a new robot pipetter
DC B04
IN HAENEL J
PA (BIOT-N) BIOTEZ BERLIN-BUCH GMBH BIOCHEMISCH-TECH
CYC 1
PI DE 4424307 A1 19960111 (199607)* DE 3[0]
ADT DE 4424307 A1 DE 1994-4424307 19940709
FDT DE 4424307 A1 Add to DE 4403967 A
PRAI DE 1994-4424307 19940709
IPCR B01J0019-00 [I,A]; B01J0019-00 [I,C]; C07H0021-00 [I,A]; C07H0021-00 [I,C]; C07K0001-00 [I,C]; C07K0001-04 [I,A]
EPC B01J0019-00C; C07H0021-00C2; C07H0021-00C4; C07K0001-04C
ICO L01J0219:00C10B2; L01J0219:00C10B4; L01J0219:00C10B6; L01J0219:00C2B2B; L01J0219:00C2B4; L01J0219:00C2D20; L01J0219:00C2D4B2; L01J0219:00C2J2; L01J0219:00C2J4; L01J0219:00C2K; L01J0219:00C2L2; L01J0219:00C4B; L01J0219:00C4D; L01J0219:00C4H; M40B0040:06; M40B0040:10; M40B0060:14
AB DE 4424307 A1 UPAB: 20050511
Fully automated, simultaneous and multiple solid phase synthesis of peptides, peptoides, oligonucleotides, peptide-nucleic acids,, diversomers and other bio-organic polymers (or libraries of them) comprises: (1) stirring the individual carrier-reagent (or carrier-wash liq.) mixts. in all reaction vessels, continuously or periodically; (2) distributing the reagents or wash liq. with a pipetting robot; and (3) opt. warming, cooling and/or vibrating the reaction vessels. Also new is an appts. for this comprising a flat unit and a circularly arranged systems of coils which are above or below the reaction vessels (fixed in holders).
USE - The method is useful in the chemical and pharmaceutical industries. More generally the appts. can be used for washing or

filtering biopolymers, cell suspensions or other sensitive biological materials.

ADVANTAGE - This system provides efficient reagent-carrier permeation, improving reliability of individual syntheses, increasing product purity and allowing use of smaller quantities of reagent. In a typical case, yield of the peptide monochloroacetyl-GKKRPKPG3WNTGGFRY-OH was increased by 30%. ABDT DE4424307

Fully automated, simultaneous and multiple solid phase synthesis of peptides, peptoides, oligonucleotides, peptide-nucleic acids, diversomers and other bio-organic polymers (or libraries of them) comprises:

(1) stirring the individual carrier-reagent (or carrier-wash liq.) mixts. in all reaction vessels, continuously or periodically;

(2) distributing the reagents or wash liq. with a pipetting robot; and

(3) opt. warming, cooling and/or vibrating the reaction vessels.

Also new is an appts. used in the process, comprising a flat unit and a circularly arranged systems of coils which are above or below the reaction vessels (fixed in holders).

USE

The method is useful in the chemical and pharmaceutical industries. More generally the appts. can be used for washing or filtering biopolymers, cell suspensions or other sensitive biological materials.

ADVANTAGE

This system provides efficient reagent-carrier permeation, improving reliability of individual syntheses, increasing product purity and allowing use of smaller quantities of reagent. In a typical case, yield of the peptide monochloroacetyl-GKKRPKPGGGWNTGGFRY-OH was increased by 30%.

EXAMPLE

A steel plate (195+360+35 mm) was provided with 5 rows of 10 holes (18 mm dia., 30 mm apart). The coils required for producing the rotating magnetic fields were arranged around each hole, beneath the plate.

The holders for the reaction vessels had an outer dia. of 16 mm and were positioned above the plate, and the base of the vessels were at the level of the upper edge of the plate, within it or about 5 mm below.

The plate included an electrical heater (controlled by a transformer) and the plate plus reaction vessels could be cooled quickly if required e.g., using tap water as coolant. (CW)

PREFERRED APPARATUS

The flat unit may include heating and cooling devices and has perpendicular holes in it, around which the coil systems are arranged. The base of the reaction vessel may be above, below or within the flat unit.

PREFERRED PROCESS
Stirring is provided by a magnet that is either suspended or located at the bottom of the vessel. The magnet is rotated by fields generated in the coils.
Reagents and washing fluids are removed by suction through one or more needles of the pipetting robot, or are discharged simultaneously from all vessels through a filter frit at the base, either by application of a vacuum or by applying an excess pressure of inert gas. The vessels can be maintained at -50-150°C.
Heating is provided e.g., by a heating coil, cooling e.g., by a Peltier device and vibration pref. by ultrasound.

FS CPI
MC CPI: B04-B03C; B04-E03; B04-N04; B11-C09
CMC UPB 20050511
M1 *01* M423 M720 N104 N137 N511 N512 N513 V742 V743 V752 V753 V761 M903
M6 *02* R502 R511 R521 R524 R526 R528 R534 M903

L74 ANSWER 8 OF 11 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1995-060291 [08] WPIX Full-text
ED 20050702
CR 1995-344065
DNC C1995-026828 [08]
TI Automated solid phase peptide synthesis appts. - with open to atmos. reagent delivery systems and pressurised transfer and reaction systems
DC B04; J04
IN CHANG H; SLAVAZZA D M
PA (CHAN-I) CHANG H; (SLAV-I) SLAVAZZA D M
CYC 1
PI US 5380495 A 19950110 (199508)* EN 10[2]
ADT US 5380495 A US 1993-112893 19930827
PRAI US 1993-112893 19930827
IPCR B01J0019-00 [I,A]; B01J0019-00 [I,C]; C07K0001-00 [I,C]; C07K0001-04 [I,A]
EPC B01J0019-00C; C07K0001-04B
ICO L01J0219:00C10B4; L01J0219:00C2B2D; L01J0219:00C2D16; L01J0219:00C2D20; L01J0219:00C2J6; L01J0219:00C2J6B; L01J0219:00C2J8; L01J0219:00C2L2; L01J0219:00C4D; L01J0219:00C4H; L01J0219:00C6L; M40B0040:10; M40B0060:14
AB US 5380495 A UPAB: 20060109
In an apparatus for solid phase peptide synthesis, closed vessels each contain a respective solvent (R1 to R7) or aminoacid (AA1 to AA12), and are each connected through corresp. valves (1 to 19) to a pressure source (N2) which supplies inert gas to feed the vessel contents via an uninterrupted line to metering vessel (MV-A or MV-B), which is open to atmospheric pressure.

A transfer vessel (TV-A or TV-B) is positioned at a lower level than the metering vessel such that when a valve (47 or 46) is opened the contents of the metering vessel flow into the transfer vessel under the influence of gravity. A further valve (45 or 44) can introduce pressurised inert gas into the transfer vessel (TV-A, TV-8) so that, with the feed valve (47 or 46) from the measuring vessel closed and a valve (24,25) open to couple a reaction vessel (RV) to atmospheric pressure, the transfer vessel contents can be introduced into the reaction vessel.

With the appropriate inlet and outlet valves (23, 24) closed the reaction vessel can be inverted to thoroughly mix the contents so that reaction takes place.

Also claimed is the apparatus together with computer control.

USE - The appts. is used in solid phase peptide synthesis.

ADVANTAGE - The solvent path to the metering vessel does not include any valves or common paths so that exposure of such components to corrosive or disruptive solvents, reagents, etc., is minimised, while feed to the reaction vessel is pressurised to overcome any resistance of filters in the vessel inlet. - The reaction vessel can be sealed to allow inversion for easy efficient mixing.

ABDT US5380495

In an apparatus for solid phase peptide synthesis, closed vessels each contain a respective solvent (R1 to R7) or aminoacid (AA1 to AA12), and are each connected through corresp. valves (1 to 19) to a pressure source (N2) which supplies inert gas to feed the vessel contents via an uninterrupted line to metering vessel (MV-A or MV-B), which is open to atmospheric pressure.

A transfer vessel (TV-A or TV-B) is positioned at a lower level than the metering vessel such that when a valve (47 or 46) is opened the contents of the metering vessel flow into the transfer vessel under the influence of gravity.

A further valve (45 or 44) can introduce pressurised inert gas into the transfer vessel (TV-A, TV-8) so that, with the feed valve (47 or 46) from the measuring vessel closed and a valve (24,25) open to couple a reaction vessel (RV) to atmospheric pressure, the transfer vessel contents can be introduced into the reaction vessel.

With the appropriate inlet and outlet valves (23, 24) closed the reaction vessel can be inverted to thoroughly mix the contents so that reaction takes place.

Also claimed is the apparatus together with computer control.

USE

The appts. is used in solid phase peptide synthesis.

ADVANTAGE

The solvent path to the metering vessel does not include any valves or common paths so that exposure of such components to corrosive or disruptive solvents, reagents, etc., is minimised, while feed to the reaction vessel is pressurised to overcome any resistance of filters

in the vessel inlet.
The reaction vessel can be sealed to allow inversion for easy efficient mixing.
PREFERRED APPARATUS
The metering vessel has photosensitive level sensors to meter the solvents and separate vessels (MV-A,MV-B) are provided for acidic and basic solvents.
The reaction vessel is inverted by an electric motor drive.(SCG)

FS CPI
MC CPI: B04-C01; B11-C09; J04-X
CMC UPB 20060109
M1 *02* M423 M424 M720 M740 N104 N105 V901 V902 M903
M6 *01* Q435 R502 R515 R528 M903

L74 ANSWER 9 OF 11 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1993-260019 [33] WPIX Full-text
ED 20050510
DNC C1993-115412 [33]
DNN N1993-200074 [33]
TI Solid phase peptide synthesis - in reaction vessel contg. support matrix to anchor peptide chains, and removable agitation stabiliser
DC A89; B04; D16; J04; S03
IN HAZAMA M; NAKAMURA S; NOKIHARA K; YAMAMOTO R
PA (SHMA-C) SHIMADZU CORP
CYC 4
PI EP 555706 A1 19930818 (199333)* EN 14[6]
US 5344613 A 19940906 (199435) EN 10[6]
EP 555706 B1 19961211 (199703) EN 16[6]
DE 69306430 E 19970123 (199709) DE
ADT EP 555706 A1 EP 1993-101448 19930129; US 5344613 A US 1993-9080 19930126; DE 69306430 E DE 1993-69306430 19930129; EP 555706 B1 EP 1993-101448 19930129; DE 69306430 E EP 1993-101448 19930129
FDT DE 69306430 E Based on EP 555706 A
PRAI JP 1992-2814U 19920129
IC ICM B01L011-00
ICS G01N033-68
IPCR B01J0019-00 [I,A]; B01J0019-00 [I,C]; B01L0011-00 [I,A]; B01L0011-00 [I,C]; C07K0001-00 [I,C]; C07K0001-04 [I,A]; C08F0002-00 [I,A]; C08F0002-00 [I,C]
EPC B01J0019-00C; B01L0011-00; C07K0001-04B
ICO L01J0219:00C10B4; L01J0219:00C2B2D; L01J0219:00C2B2D2; L01J0219:00C2L2; L01J0219:00C4D; L01J0219:00C4H; M40B0040:10; M40B0060:14
AB EP 555706 A1 UPAB: 20060108
Peptide synthesis takes place in a reaction vessel (4) by bubbling inert gas through a drainage port (10) into reagents and washing

solvents, introduced through an open top of vessel (4), to effect anchoring of elongating peptide chains, yielded through coupling assembly formation of peptide bonds, on an insoluble support matrix. A removable stabiliser (7) is installed into the vessel (4) to inhibit splashing of the reagents and washing solvents and for breaking clumping and coagulative skinning of peptide-bound support matrix, due to floculation effects abetted by the bubbling agitation during the coupling assembly of peptide chains, and levitated thereby in the reaction chamber of the vessel.

USE/ADVANTAGE - In solid-phase peptide synthesis in the study of peptide chemistry and reaction conditions, study of epitopes, agonists and antagonists, structure-activity relationships, sequencing of peptides and mfr. of neuropeptides, hormones, and antigens. Introduction of the stabiliser improves the efficiency and mass recovery with high homogeneity of the peptides and improves the action of the washing solvents.

ABEQ (0002)

US 5344613 A UPAB 20060108

Solid phase peptide synthesis appts.

has a cylindrical reaction vessel (4) with a drainage port (10) through which inert gas is forced to produce bubbling agitation, a reagent and solvent supply port, and an insol. peptide chain support matrix on a filter (11) covering the port. A removable stabiliser (7) in the vessel to prevent splashing and coagulation is formed as an annulus (7a) fitting concentrically in the vessel and supported by an extending leg (13). The stabiliser has a shorter extending baffle leg (14) bent radially inwardly to break clumping and coagulative skinning and to enhance dispersive mixing.

ADVANTAGE - Improved efficiency and produces residues of high homogeneity in high yield.

IT UPIT 20060108

1145-USE

FS CPI; EPI

MC CPI: A12-W11L; B04-C01; D05-H; J04-B01

EPI: S03-E14H5

PLC UPA 20060108

KS: 0231 0248 2706 2733 3272

FG: *001* 017 04- 041 046 050 53& 623 624 643 688 721 726

PLE UPA 20060108

[1.1] 017 P0500 F- 7A;

[1.2] 017 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58 D83 DCN: R00964 DCR: 1145; H0000; P1150; P1343;

[1.3] 017 ND01; Q9999 Q6973 Q6939; Q9999 Q8082; Q9999 Q7794-R;

CMC UPB 20060108

DRN: 1846-U
M1 *01* M423 M424 M720 M740 N104 Q233 Q435 V753 M903
M1 *02* H7 H721 M210 M213 M231 M320 M423 M424 M510 M520 M530 M540 M610 M740 M781 N104 Q233 Q435 V0 V743 M903 M904 M910
DCN: R00964-U
DCR: 1145-U
M6 *03* Q233 Q435 R502 R530 R534 M903

L74 ANSWER 10 OF 11 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1993-068580 [09] WPIX Full-text
ED 20050507
DNC C1993-030403 [21]
TI Appts. for simultaneous synthesis of different peptide(s) - has movable needles and purge nozzles arranged on horizontally and vertically movable arms
DC A96; B04
IN HAZAMA H; HAZAMA M; NAKAMURA S; NOKIHARA K; NOKIHARA S; YAMAMOTO R
PA (SHMA-C) SHIMADZU CORP; (SHIM-C) SHIMIZU PHARM IND CO LTD
CYC 3
PI EP 529504 A2 19930303 (199309)* EN 15[6]
JP 05049914 A 19930302 (199314) JA 10[6]
JP 07020546 B2 19950308 (199514) JA 10
US 5395594 A 19950307 (199515) EN 11[6]
EP 529504 A3 19940406 (199522) EN
EP 529504 B1 19980513 (199823) EN 16[6]
DE 69225441 E 19980618 (199830) DE
ADT EP 529504 A2 EP 1992-114165 19920819; JP 05049914 A JP 1991-240553 19910826; JP 07020546 B2 JP 1991-240553 19910826; DE 69225441 E DE 1992-69225441 19920819; EP 529504 A3 EP 1992-114165 19920819; EP 529504 B1 EP 1992-114165 19920819; DE 69225441 E EP 1992-114165 19920819; US 5395594 A US 1992-933729 19920824
FDT DE 69225441 E Based on EP 529504 A; JP 07020546 B2 Based on JP 05049914 A
PRAI JP 1991-240553 19910826
IC ICM B01J019-00; B01J019-28
ICI C07K099:70
IPCR B01J0019-00 [I,A]; B01J0019-00 [I,C]; B01J0019-28 [I,A]; B01J0019-28 [I,C]; C07K0001-00 [I,C]; C07K0001-04 [I,A]; C07K0014-435 [I,C]; C07K0014-575 [I,A]; C07K0014-655 [I,A]; C07K0014-70 [I,A]; C07K0005-00 [I,C]; C07K0005-08 [I,A]; C07K0007-00 [I,C]; C07K0007-06 [I,A]
EPC B01J0019-00B10; B01J0019-00C; C07K0001-04B
ICO L01J0219:00C10B4; L01J0219:00C2B2D; L01J0219:00C2B2D2; L01J0219:00C2B4B; L01J0219:00C2D20; L01J0219:00C2D5; L01J0219:00C2J8; L01J0219:00C2L2; L01J0219:00C4B; L01J0219:00C4D; L01J0219:00C4H; M40B0040:10; M40B0060:14
AB EP 529504 A2 UPAB: 20060107

The synthesiser includes a number of reaction vessels each of which contains resin and has a filter in its bottom portion. A bubbling gas line and a waste discharge line are connected to the bottom of each vessel. A number of needles are each connected to an aspiration injection line for a reaction mixt. and a gas supply line. Each needle is arranged not to touch the resin in the vessels. The needles and purge nozzles are mounted on arms which are vertically and horizontally movable.

More specifically, an arm supports needles and can be moved horizontally and vertically by motors. Each needle is connected with injection lines for aspirating and injecting solvent or reagents to reaction vessels. It is also connected to a gas supply line. The upper face of the vessel can be sealed and purge gas introduced to force unreacted reagents, solvents and washing solns. to a waste line connected to the bottom of each vessel on completion of a reaction or resin washing.

USE/ADVANTAGE - The appts. may be used for solid- phase peptide synthesis. The appts. provides high yield in a short time with high prod

ABEQ (0004)

US 5395594 A UPAB 20060107

Simultaneous multiple chemical synthesiser comprises several reactors, each contg. a filter supporting a solid resin, mounted near the base; an assembly of movable arms, adjustable in the horizontal and vertical directions, each carrying a needle connected to an aspirating line for injection of a reaction mixt. into each vessel, such that the needles do not touch the resin beds; gas bubble lines and waste discharge lines are connected to the bottom of each reactor, in conjunctions with purging lines; and facilities for washing the vessels, lines and needles.

USE - The device facilitates automatic chemical synthesis.

ADVANTAGE - The device offers high efficiency in costs, speed of operation, yields, product purity and ease of maintenance.

FS CPI

MC CPI: A12-H04; B04-C01; B11-C09

PLC UPA 20060107

KS: 0210 0231 0239 0248 0843 2653 2702 3258 3272

FG: *001* 014 04- 041 046 047 050 062 064 071 50& 53& 575 595 623 624 651 666 688

CMC UPB 20060107

M1 *01* G010 G013 G111 H4 H401 H441 H8 J0 J011 J1 J171 M280 M311 M312 M315 M321 M332 M333 M340 M342 M343 M349 M371 M381 M391 M424 M510 M520 M530 M531 M540 M720 M740 N105 N152 V902 V911 V921 M903 M904

MCN: 9309-06701-P

L74 ANSWER 11 OF 11 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
AN 1991-260693 [36] WPIX Full-text
ED 20050504
DNC C1991-113172 [21]
TI Device for simultaneous synthesis of several polypeptide(s) - consists of a container containing several reaction vessels open above and below and fitted with filters at the lower ends
DC B04
IN KNAPP W; SCHNORRENB G; SCHNORRENBERG G
PA (BOEH-C) BOEHRINGER INGELHEIM; (BOEH-C) BOEHRINGER INGELHEIM INT GMBH; (BOEH-C) BOEHRINGER INGELHEIM KG
CYC 17
PI DE 4005518 A 19910829 (199136)* DE
WO 9113084 A 19910905 (199138) EN
AU 9172402 A 19910918 (199150) EN
EP 516672 A1 19921209 (199250) DE 20[0]
JP 05504147 W 19930701 (199331) JA
AU 642710 B 19931028 (199350) EN
EP 516672 B1 19940511 (199419) DE 9[3]
DE 59101618 G 19940616 (199425) DE
ADT DE 4005518 A DE 1990-4005518 19900222; AU 642710 B AU 1991-72402 19910220; DE 59101618 G DE 1991-59101618 19910220; EP 516672 A1 EP 1991-904242 19910220; EP 516672 B1 EP 1991-904242 19910220; DE 59101618 G EP 1991-904242 19910220; JP 05504147 W JP 1991-504203 19910220; EP 516672 A1 WO 1991-EP318 19910220; JP 05504147 W WO 1991-EP318 19910220; EP 516672 B1 WO 1991-EP318 19910220; DE 59101618 G WO 1991-EP318 19910220
FDT AU 642710 B Previous Publ AU 9172402 A; DE 59101618 G Based on EP 516672 A; EP 516672 A1 Based on WO 9113084 A; JP 05504147 W Based on WO 9113084 A; AU 642710 B Based on WO 9113084 A; EP 516672 B1 Based on WO 9113084 A; DE 59101618 G Based on WO 9113084 A
PRAI DE 1990-4005518 19900222
IC ICM C07K001-04
IPCR B01J0019-00 [I,A]; B01J0019-00 [I,C]; C07K0001-00 [I,C]; C07K0001-04 [I,A]
EPC B01J0019-00C; C07K0001-04B
ICO L01J0219:00C10B4; L01J0219:00C2B2D; L01J0219:00C2B4B; L01J0219:00C2B4B2; L01J0219:00C2D12; L01J0219:00C2D14; L01J0219:00C2D20; L01J0219:00C2D4; L01J0219:00C2L; L01J0219:00C4B; L01J0219:00C4D; L01J0219:00C4H; L01J0219:00C6F2; L01J0219:00C6J; M40B0040:10; M40B0060:14
AB DE 4005518 A UPAB: 20060106
A device for the simultaneous synthesis of several polypeptides using a solid phase synthesis method consists of several reaction vessels and a container for them. The reaction vessels have openings both above and below, the lower openings being covered with filters. The

container is a dealable vessel which has connectors for an inert gas inlet and a suction device and openings in which the reaction vessels are fixed so that their upper openings are able to receive the liquids required in the syntheses, and so that their lower openings are in the inner chamber of the container.

USE/ADVANTAGE - The device enables automatic simultaneous synthesis of several polypeptides. The liquids, reagents and wash liquids can be easily, quickly and completely removed, which is not the case in previously used devices. Previous devices could also only prepare up to 25 micro mol peptide without the need to change reaction vessels. @(7pp Dwg.No.0/3)

FS CPI
MC CPI: B04-C01; B11-C09
CMC UPB 20060106
M1 *01* M423 M424 M720 M740 N104 V902 M903
M6 *02* R150 R170 R511 M903

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FILE 'JAPIO' ENTERED AT 12:02:47 ON 19 SEP 2008
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FILE LAST UPDATED: 9 SEP 2008 <20080909/UP>
MOST RECENT PUBLICATION DATE: 29 MAY 2008 <20080529/PD>

=> D L47 1-2 IBIB ABS IND

L47 ANSWER 1 OF 2 JAPIO (C) 2008 JPO on STN
ACCESSION NUMBER: 1994-220084 JAPIO Full-text
TITLE: PEPTIDE SYNTHESIZER
INVENTOR: NOKIHARA SEISHI
PATENT ASSIGNEE(S): SHIMADZU CORP
PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 06220084	A	19940809	Heisei	C07K001-04

APPLICATION INFORMATION
STN FORMAT: JP 1993-27641 19930123
ORIGINAL: JP05027641 Heisei
PRIORITY APPLN. INFO.: JP 1993-27641 19930123
SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1994

AN 1994-220084 JAPIO Full-text

AB PURPOSE: To provide a peptide synthesizer enabling easy washing of a solid- phase supporting material, necessitating a small amount of reagent for the peptide synthesis, capable of taking the synthetic product out of a reactor for a series of synthetic reactions and enabling quick and efficient simultaneous solid- phase synthesis of multiple kinds of products. CONSTITUTION: The apparatus is provided with a means for repeating a series of reactions comprising washing, coupling, washing and deprotection in gas-tight state and/or in an inert gas stream and with a needle for the delivery and suction of the reagent. The apparatus is also provided with a linker suitable for the cleavage after the peptide synthesis and a micro-titer plate having an inner wall with a spacer which does not inhibit the extension of the peptide chain or a micro-titer plate charged with a membrane filter incorporated with the spacer. COPYRIGHT: (C)1994,JPO&Japio

IC ICM C07K001-04

L47 ANSWER 2 OF 2 JAPIO (C) 2008 JPO on STN

ACCESSION NUMBER: 1983-148896 JAPIO Full-text

TITLE: AUTOMATED MICROSYNTHESIZER FOR DNA OR THE LIKE

INVENTOR: OOSUGI YOSHIAKI; MIYOSHI KENICHI; FUWA TORU

PATENT ASSIGNEE(S): SHIMADZU CORP
WAKUNAGA YAKUHIN KK

PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 58148896	A	19830905	Showa	C07H021-02

APPLICATION INFORMATION

STN FORMAT:	JP 1982-30887	19820226
ORIGINAL:	JP57030887	Showa

PRIORITY APPLN. INFO.: JP 1982-30887 19820226

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1983

AN 1983-148896 JAPIO Full-text

AB PURPOSE: The titled synthesizer that is provided with a supply port for feeding reagent solutions at the top and an effluent port at the bottom and has a microvolume of the reaction space formed with a filter on which a solid support for synthesis of DNA etc. can be placed, further having a means for feeding reagents in amounts corresponding to the amount of the support.
CONSTITUTION: The reactor 2 consists of the cylindrical main body 3 and a cone-shaped flange 5 and the port for feeding reagent solutions 6 is set to the top opening of the main body 3 and the effluent port 9 is set to the bottom. Further, a filter 7 is fitted to the lower

part in the main body 3 so that it can hold the support for DNA synthesis 9 and pass the reagent solutions, solvents and gases to form a reaction space 10 above it. A support to which only the terminals of DNA molecules are bonded 9 is placed in the reactor 2 and its amount signal is input to the control circuit 34 to control plunger-driving mechanisms 26∼30, switching cocks 16∼20 and air-releasing valve 51 to feed needed amounts of nucleotide reagents 11∼14 and condensation agent 15. Further, valves 45∼47 are controlled to feed required minimum amounts of deprotecting reagent 39, masking reagent 40 and condensing agent 41 for masking.

IC ICM C07H021-02
ICS C07H021-04